Bonneville Power Administration
Energy Efficiency

Conservation Rate Credit (CRC)
and
Conservation Acquisition Agreement (CAA)

Implementation Manual

October 1, 2007*

See list of key changes on page i of this document

"CRC Implementation Manual," as described in BPA's 2007 Wholesale Power Rate Schedule and GRSPs pertains to Conservation Acquisition Agreements.

Note

As you review this edition of the Implementation Manual (Manual), you will note the Manual has been reorganized. Our hope with the reorganization is to improve the ability to find measures, reimbursement amounts and related requirements in newly created sections by sector. The Manual now introduces the structure, describes the BPA funding sources and provides general requirements before describing the sector specific requirements. It is worth noting the Manual is not a program design, rather it is the foundation upon which programs are built.

We are grateful to the subset of BPA customers surveyed to help us make improvements to the structure, organization and content of the Manual. We acknowledge the comments received in BPA's Annual Customer Survey regarding the Manual and intend to continue making the Manual a more readable, better organized and useful document for our customers. Admittedly, there are still improvements to be made, and I hope as you review the new layout you will let us know your thoughts and questions so that we can continue to improve the Manual.

I also wish to thank and acknowledge the contributions of Jean Oates, Adam Hadley, Grant Vincent and Abigail Howard, all of whom lent their expertise to this edition of the Manual.

Michael Rose
Manager, BPA Energy Efficiency Contract Administration

Table of Contents

For a quick way to get to a particular section if you are viewing an online or other electronic WORD version of this document, click on the item you want to view.

Implementation Manual October 2007 Changes Summary i

Acronyms and Abbreviations Used in this Document ii

Sector Definitions v

1. Introduction 1

1.1. Policy for Measure Changes/Additions 2
1.2. Official Interpretations 2
1.3. Reimbursement Strategies and Levels 2
1.4. Key Features of the Conservation Rate Credit and Conservation Acquisition Agreement 3
1.5. Federal Agency Program 4
1.6. Methods of Determining CRC Credit or CAA Reimbursement Level and General Requirements 5
1.7. Custom Projects 5
1.8. Role of the RTF 12

2. Conservation Rate Credit 16

2.1. General Overview of the Conservation Rate Credit Program 16
2.2. Calculation of the Conservation Rate Credit 17
2.3. Sources of CRC Qualifying Load Data 17
2.4. Participation in the CRC 17
2.5. Discontinuing Participation in the CRC 19
2.6. Rules for Pooling Organizations 19

3. Conservation Acquisition Agreement 20

3.1. Establishing a Conservation Acquisition Agreement 20
3.2. Changes to Implementation Budget Amounts 21
3.3. Non-Standard Offers 21

4. General Requirements 22

4.1. Reporting Requirements 22
4.2. Administrative Allowance 27
4.3. CRC Administrative Cost Guidelines 28
4.4. CAA Administrative Cost Guidelines 29
4.5. Agreed Upon Procedures Report for Administrative Activities 29
4.6. Small Utility Requirements and Information 31
4.7. Fundamental Requirements Related to Federal Due Diligence 32

5. Agricultural Sector 36

6. Commercial Sector 46

7. Industrial Sector 58

8. Residential Sector 66

9. Renewables Option 93

List of Tables

Table 1: CRC CAA Process Chart 4
Table 2: Reporting Schedule 22
Table 3: Examples of Claims under CRC 29
Table 4: Example of Claims on the CAA (Bilateral) Side 29
Table A-1: Credits/Reimbursements for Agricultural Measures 39
Table A-2: Credits/Reimbursements for Irrigation System Motors 41
Table A-3: Credits/Reimbursements for Medium Voltage Irrigation System Motors (600v to 5,000v) 42
Table C-1: Refrigerator Credit/Reimbursement 48
Table C-2: Freezer Credit/Reimbursement 49
Table C-3: Credit/Reimbursement for Energy Smart Design™ - Office 50
Table C-4: Credit/Reimbursement for ENERGY STAR Commercial Clothes Washers 51
Table C-5: Credit/Reimbursement Commercial/Industrial New Construction Lighting Program* 56
Table R-1: Credits/Reimbursements for PTCS Duct Sealing in Manufactured Homes (All climate zones) 70
Table R-2: Credits/Reimbursements for Heat Pumps 73
Table R-3: Credits/Reimbursements for ENERGY STAR Manufactured Homes 76
Table R-4: Zonal/Heat Pump Reimbursements for ENERGY STAR Site-Built Homes 77
Table R-5: Credits/Reimbursements for MF New Construction 78
Table R-6: MF New Construction Specifications – Summary 1 78
Table R-7: Credits/Reimbursements for Line Voltage Electronic Thermostats per Home 80
Table R-8: Low Income Weatherization List 84
Table R-9: Low-Income Window Replacement Measure Eligibility 90
Table R-10: Low-Income Prime Window Replacement List 91
Table RO-1: New Renewable Facility Credit 111
Table RO-2: Caps on Credit for Existing Renewable 112
Table RO-3: Renewable Credit Proxy Values 112

List of Figures

Figure 1: RTF Process Flowchart 15
Figure RO-1: Renewable Reporting Timeline.....120

Implementation Manual October 2007 Changes Summary

Title	Description	Imp. Manual Page #
Clarify Policy for Changes to Manual	Allow "positive" and/or "neutral" changes to the Manual to occur at any time during the year. "Negative" changes will only be allowed with six month's notice, and will only be implemented on April 1 or October 1, with issue of the new Manual.	2
Commercial Clothes Washers: Update Credit/ Reimbursement Language	Removed language relating to credits/reimbursements prior to February 1, 2007	51
Commercial Lighting: Update Standard T8 Credit/Reimbursement	Removed language relating to reducing credits/reimbursements for standard T8s. Credits/reimbursements for fiscal year 2008 for standard T8 lamps and ballasts are held at 2007 levels to respond to changing market conditions.	54
Commercial New Construction: Energy Smart Design -Small Office Prescriptive Path	A package of 7 energy measures, exceeding code and meeting specifications, is a deemed measure effective October 1, 2007.	49
Custom Projects/Funding Continuation	Language was added allowing for acceptance of custom projects beyond the end of the current rate period. CPPs are eligible with a TRC Benefit Cost Ratio of less than 1 so long as the aggregate of all custom projects has a B/C ratio of greater than 1.0	5
Residential Air Source Heat Pumps: HSPF/SEER Language Removed from Manual	The PTCS Heat Pump Installation Standards have HSPF/SEER rating requirements for the heat pump measures, so re-stating them in the Manual is redundant and confusing.	71-74
Residential Air Source Heat Pumps: Updated Reimbursement Table	The April Fiscal Year 2007 version of the Manual called for the removal of the additional credit category for heat pumps with HSPF 9.5. Credits for heat pumps in heating zone 1 with ducts inside remain.	73
Residential Showerheads: New Measure Added	Residential showerheads added	79
Residential Freezer Decommissioning: New Measure Added	Freezers are now explicitly allowed under the Residential Refrigerator Decommissioning measure	69

Note: Changes made to the Manual prior to October 1, 2007, that were posted to the BPA Energy Efficiency Web site as errata or changes/additions are not included in this summary of changes. Those errata and changes have been incorporated into this revised Manual.

Acronyms and Abbreviations Used in this Document

(Definitions associated with the Renewables Option of the CRC are provided in section 9)

AE:	BPA Power Account Executive
AICPA:	American Institute of Certified Public Accountants
Alliance (or NEEA):	Northwest Energy Efficiency Alliance
aMW:	Average megawatt of electricity. An average measure of the total energy delivered in one year -- 8,760,000 kilowatt-hours per year
BPA:	Bonneville Power Administration
CAA	Conservation Acquisition Agreement
CAP:	Community Action Partnership (or Program)
CEC:	California Energy Commission
CEE:	Consortium for Energy Efficiency
COTR	BPA Contracting Officer's Technical Representative
Council:	Northwest Power and Planning Council
CP or CPP:	Custom Project or Custom Project Proposal
CPA:	Certified Public Accountant
CRC:	Conservation Rate Credit
Customer	A utility or certain other regional entities who purchase power from BPA (Note that "customer" and "utility" are both used throughout this Manual and in many cases are interchangeable)
CVR	Conservation voltage regulation
Deemed Measure	A deemed energy efficiency measure is a measure for which savings per unit can be estimated because of a history of measured results and replicability of the savings.
DSEI:	Customer distribution system efficiency improvements
EE:	Energy Efficiency (BPA)
EER:	Energy Efficiency Representative (BPA)
End-user	Ultimate consumer of a product(s). For example, a residential utility customer is the homeowner who purchases the electricity or other services.
ENERGY STAR®	ENERGY STAR is the registered name for a joint national energy efficiency program of the U.S. Environmental Protection Agency and the U.S. Department of Energy.
EPP:	Environmentally Preferred Power rate schedule
ETO:	Energy Trust of Oregon
Evaluation:	At its most basic level, evaluation tests in the field the assumptions made in planning when measures are installed by real people and used by real people. It is generally not part of oversight, does not affect payments, and is used to refine or

	confirm the planning assumptions for future use. BPA needs and requires cooperation with evaluations for both the CRC and the CAA to improve programs, to assure all ratepayers that we are running the most efficient programs that we can, and to show that energy efficiency is a reliable resource.
FAF:	Forced air furnace
Fiscal Year (FY):	BPA's fiscal year is from October 1 through September 30.
FPS:	Firm Power Products and Services rate schedule
GRSPs:	General Rate Schedule Provisions
HDD:	Heating degree days
HP:	High performance, heat pump, OR horsepower, depending on context
HSPF:	Heating Season Performance Factor
HSPF:	Heating Season Performance Factor.
HTR:	Hard to reach (market)
HVAC:	Heating, ventilation, and air conditioning
HZ:	Heating zone
Incremental cost:	A term of art that is used consistently within the Regional Technical Forum (RTF) and in this document, as well as in all California utilities. It can be the full cost of some measures, especially in retrofit situations or when a measure is completely incremental to standard practice. It is generally defined as the "energy efficiency improvement related costs above what would be required by standard practice or code." It is often called "qualifying costs of the measures."
IOU:	Investor-owned utility
kWh:	Kilowatt-hour – measure of electric energy
LML:	Long measure life
LO:	Lost opportunity
Low-Income:	Low-income, as defined for the Federal Weatherization Assistance Program, is 150 percent of the poverty income levels that are posted on the program Web site: http://www.waptac.org/. If a statewide definition has been approved for the federal low-income weatherization program in that state, that level will substitute for the default level provided above.
M&V:	Measurement and verification
MB:	Market barriers
Measurement:	This refers to measurements taken to establish energy use or improvements in energy use. It can mean many things, such as testing duct leakage or measuring loading factors and run time in factories. It usually involves post and/or pre/post measurement. Large end-users often do it to make sure that they are getting

	what they pay for, or to better understand their system operations. The prevalence of required measurement for audits or for payment has varied in the field of energy efficiency, but the general rule is: the more uncertainty, the greater the risk of performance, the greater the need for actual measurement. BPA contracts will require some level of measurement for projects for which the reimbursement is established by the savings achieved.
MEF:	Modified energy factor
MF:	Multifamily home
MH:	Manufactured home
Mid C:	Mid-Columbia – A regional wholesale energy market
MSO	Multisector Standard Offer (replaces sector-specific standard offers)
Multifamily	Five or more dwelling units within the same structure
MW:	Megawatt – measure of electric energy
MWh:	Megawatt-hour – measure of electric energy
NCAT:	National Center for Appropriate Technology
NEEA (or Alliance):	Northwest Energy Efficiency Alliance
NEEM:	ENERGY STAR® Manufactured Housing was formerly known as Northwest Energy Efficient Manufactured Housing Program and before that as Super Good Cents Manufactured Housing
NEMA:	National Electrical Manufacturers Association
NR:	New Resource Firm Power rate schedule
Oversight:	This is a contract management activity that is usually limited to assuring the government that it is getting what it pays for with some level of certainty, and is used mostly for BPA activity. It will be a required part of all post-2006 conservation activities. Those who have recently participated in BPA programs requiring oversight have reported this to be a minimal inconvenience and sometimes a constructive process. Those who haven't had recent exposure to Con Aug oversight have expressed concerns about the burdens and risks involved.
PF:	Priority Firm rate schedule
PTCS™:	Performance Tested Comfort Systems certification for duct sealing and heat pump commissioning
PTR:	Planning, Tracking, and Reporting System for utilities to report conservation activity
PV:	Photovoltaic (solar)
RD&D:	Research, development, and demonstration
REC:	Renewable Energy Credit

Regional Technical Forum (RTF):	The RTF is an advisory committee established in 1999 to develop standards to verify and evaluate conservation savings. Members of the RTF are individuals experienced in conservation program planning, implementation and evaluation and are appointed by the Northwest Power and Conservation Council.
RL:	Residential Load rate schedule
RO:	Renewables Option of the Conservation Rate Credit
RTF Reporting Software/System:	The software referred to is now known as the Planning, Tracking, and Reporting System, which is hosted by the RTF
RTF:	Regional Technical Forum
SEER:	Seasonal Energy Efficiency Ratio
SF:	Single family (or site built home)
Single Family	Less than five dwelling units within the same structure
SIS:	Scientific Irrigation Scheduling
TRC:	Total resource cost
TRCs:	Tradable Renewable Certificates
TSP:	Technical Service Proposal
Utility	A public utility that purchases power from BPA (Note that "customer" and "utility" are both used throughout this Manual and in many cases are interchangeable)
VAR:	Volt-amperes-reactive (reactive power)
Verification:	This is a responsibility to inspect actual presence and proper operation of an installed measure. This is a level of quality control. It is often a function performed by the customer before paying rebates. Some turn-key program operators do it to make sure that their employees are following the specs. BPA may, during an oversight visit, review measures which have been verified by the customer or a turn-key program operator.
Wheel-Line Leveler	Self leveler which automatically keeps the sprinkler heads on an irrigation wheel line in a steady upright position
WTP:	Willingness to Pay (BPA). The amount BPA is willing to credit/reimburse for measures

Sector Definitions

Agricultural:	Electrical energy used by a farm business whose primary purpose is land cultivated for food production or land used for breeding or raising of domestic live stock (including fish, oysters, etc.). Any on-farm measures are considered "agricultural," with the exception of major processing of farm products on-site. This sector also includes any lands involved in major irrigation loads, regardless of the business purpose.

	The distinction between agricultural and industrial generally rests with the property line. Processes off farm are industrial; on farm are agricultural. Examples: o Dairies and storage of milk is agricultural; pasteurizing, homogenizing, dehydrating, bottling of milk, ice cream, cheese and butter production is industrial. o Potato storage on-farm is agricultural; potato storage at a co-op or at a processor is industrial. o Pumping for fish farms and refrigeration of fish before shipping is agricultural; freezing, storing, and canning of fish is industrial. o Orchard fruit stored temporarily on the farm, like grain, milk, or potatoes, is agricultural, but if it is centrally stored by a middle-man, co-op, or processor, it is industrial. o Wineries are agricultural if the wine is grown, stored, pressed, cooled, and bottled on the farm. o Golf courses with irrigation load are agricultural for the purposes of their irrigation loads. The nature of the choice is tied to the load and the process as much as it is to the building or business type.
Commercial:	An energy-consuming sector that consists of service-providing facilities and equipment of businesses; federal, state, and local governments, and other private and public organizations. The commercial sector is generally defined as non-manufacturing business establishments, including hotels, motels, restaurants, wholesale businesses, retail stores, and health, social, and educational institutions.
Industrial:	An inclusive term for any fixed equipment, building, or complex for the production of goods in connection with, or as part of, any process or system, and, in general, within which the majority of energy use is not devoted to HVAC or to meet the potable hot water energy load requirements of a facility. Also included are electric distribution systems, conservation voltage regulation (CVR), and water/waste-water systems. Any storage, processing (transportation), or other activities involving farm products off the farm is considered industrial food processing.
Residential:	Any electric energy conservation measure that is used in a residential setting. This includes single family residences, multifamily residential structures (up to 3 stories high), and manufactured homes. Excluded are temporary residences such as hotels, motels, nursing homes, dorms, or any other generally temporary quarters. (*Multifamily housing above three stories is considered commercial.)*
Other:	Other non-building energy-consuming facilities/devices, such as LED traffic signals.

1. Introduction

Two major conservation initiatives were developed for the Bonneville Power Administration's (BPA) fiscal year 2007 - 2009 Conservation Portfolio of Programs -- the Conservation Rate Credit (CRC) and Conservation Acquisition Agreements (CAA). These initiatives replaced the Conservation and Renewables Discount (C&RD) and Conservation Augmentation (ConAug) initiatives.

CRC and CAA are separate conservation-funding mechanisms with many common and complementary features. Both initiatives use the Regional Technical Forum's (RTF) Planning, Tracking, and Reporting (PTR) System (http://ptr.nwcouncil.org/), its list of qualifying measures, verification protocols, and custom project (CP) approval processes. The CRC credit appears on customers' monthly power bills. The credits are substantiated by acceptable reports submitted by the customer. The CAA reimbursement is based on acceptable invoices submitted by the customer.

The basis for this document is the "Final Post-2006 Conservation Structure" (June 28, 2005) that is posted on the BPA Energy Efficiency (EE) Web site[1] at http://www.bpa.gov/Energy/N/projects/post2006conservation/archive.cfm.

In addition, limited renewables measures are available to assist customers and BPA in continuing to be major supporters of renewable generation in the Pacific Northwest.

Organization of the Manual

The format of the Implementation Manual has changed to create a more succinct, user-friendly document.

Section 1 introduces the CRC & CAA and provides general information about these initiatives.

Sections 2 and 3 contain information specific to the CRC and CAA, respectively.

Section 4 contains general requirements, including information on administrative allowance, the agreed upon procedures report for administrative activities, small utility requirements, and federal due diligence requirements.

Sections 5 through 8 contain information about specific sectors. Each section contains the following information:

- Definition and general description of the sector
- Measure descriptions including requirements and specifications and reimbursement strategies and levels
- Tables

Section 9 contains information about the Renewables Option of the CRC

[1] Materials referenced on the BPA Energy Efficiency Conservation 2007 - 2009 Web site can be found at: http://www.bpa.gov/Energy/N/projects/post2006conservation/ unless otherwise noted. Customers without Internet access should contact their Energy Efficiency Representative for more information or for copies of the referenced materials.

1.1. Policy for Measure Changes/Additions

BPA publishes the CRC and CAA Implementation Manual (Manual) every six months, on October 1 and April 1. BPA reserves the right to make changes to policies or measures.

Customers will be given at least six months notice for changes that decrease a measure credit/reimbursement, increase requirements, or delete an existing measure in the CRC and CAA. This notice will be given in the October or April edition of the Manual, whichever edition gives at least six months notice before implementation of the change takes effect.

Changes that increase a measure credit/reimbursement, decrease requirements, or add a new measure may be implemented any time of year. In these cases, the EE Web site acts as an extension to the Manual, allowing BPA to communicate positive changes to existing measures and eligibility and requirements for new measures before publication of the next Manual. At publication of the subsequent Manual, these changes will be incorporated into the new published version of the Manual and removed from the Web page (http://www.bpa.gov/Energy/N/projects/post2006conservation/manual/New-Changed-Measures.cfm).

1.2. Official Interpretations

Only BPA's Contract Administration Manager or Energy Efficiency Implementation Manager may issue interpretations, determinations, and findings related to the CRC or CAA that are binding and/or have implications across the program, unless delegated to other BPA staff (i.e., COTRs). Such decisions shall be provided to the customer in writing. Only written statements (including e-mail) by BPA officials acting within the scope of their authority in administering the CRC and the CAA shall be considered to be official BPA statements.

1.3. Reimbursement Strategies and Levels

BPA's Reimbursement Strategies and Levels (RS&L) are the core element of the CRC and CAA. These strategies and levels set forth BPA's Willingness to Pay (WTP). In earlier versions of the Manual, the RS&L was provided as a separate document attached to the body of the Manual. In this October 1, 2007, update, the sector- and measure-specific RS&Ls are grouped with related measure information in sections that are separated by sector.

1.3.1 Influences on BPA's Willingness to Pay (WTP)

BPA's credit/reimbursement to the customer for savings achieved is based on busbar savings, which is generally 7.625 percent above the site savings[2]. This is consistent with the way BPA's aMW targets and its WTP are set.

[2] Decrementing customers may choose to accept payment for, and take a decrement for, only the 5 percent distribution line losses.

WTP is also based on estimated or verified energy savings that will persist over the life of the measure. BPA's WTP and the savings estimates are derived from program evaluations and research projects that are directly related to the standards and quality assurance processes embodied in the programs.

1.4. Key Features of the Conservation Rate Credit and Conservation Acquisition Agreement

Key features of the CRC and CAA[3] initiatives include:

a. There is a voluntary choice by power customers of whether to participate and to what extent to participate.

b. CRC funding is proportional to the amount of power purchased from BPA. CAA funding levels are negotiated for each CAA contract.

c. The intent of both funding initiatives is to achieve conservation at the lowest possible cost.

d. BPA's agreements are between the customer and BPA, not between the customer's end-users and BPA. The customers or third parties will design and run programs, and BPA will design credit/reimbursement rules and levels for participating customers and federal customers.

e. Local control and accounting simplicity will be reflected in BPA's WTP for achieved and measured conservation at set levels of credit/reimbursement (deemed reimbursement, or cents per kilowatt-hour (kWh) up to a cap), allowing customers to determine how to design and operate their own programs to deliver the savings.

f. Administrative support will be allowed to assist customers for planning and implementation of conservation programs.

g. Credit levels in the CRC are generally consistent with the reimbursement levels in the CAA.

h. CRC credits and CAA reimbursements are available for cost-effective conservation measures in all sectors (i.e., residential, commercial, industrial, agricultural, and other).

i. Information on individual customer expenditures and achievements resulting from BPA funding will be made available to the public, as appropriate.

j. At the time this Manual was published, the Investor-Owned Utility (IOU) Settlement Agreement was suspended pending resolution

[3] Subsequent references made in this Manual to CRC and CAA requirements are intended to include and be applicable to Utility Self-Funded measures reported to BPA that are countable toward the High Water Mark pursuant to the Long-Term Regional Dialogue Policy.

of related issues. IOUs cannot at this time receive funding through the CRC.

CRC CAA Process Chart

Table 1: CRC CAA Process Chart

	CRC	CAA
Qualifying Customers	The CRC is available to BPA's Priority Firm Power (PF), Industrial Power (IP), and New Resource Firm power customers. (IOUs do not qualify at this time, pending resolution of the Settlement Agreement.)	Any BPA public utility customer and non-smelter Direct Service Industries (DSIs)
Funding Source	Customers receive a rate credit on their monthly power bills over the course of the rate period based on the net load placed on BPA.	Customers are reimbursed for measures according to BPA's willingness to pay. CAA standardized offers provide reimbursements for a wide variety of cost-effective, deemed measures and a streamlined process for BPA's purchase of custom projects.
Funding Amount	CRC funding is proportional to the amount of power purchased from BPA.	CAA funding is negotiated on a contract by contract basis.
Application Process	Early Start Customers signed a participation agreement while all others are automatically signed up unless they opt out.	To initiate a CAA, customers must submit a written request.

1.5. Federal Agency Program

In addition to using the CAA and CRC as the primary mechanisms for delivering energy savings from participating customers, BPA's portfolio of energy efficiency programs will continue to include the acquisition of energy savings from projects implemented under Interagency Agreements, primarily with directly-served federal agency customers. These additional energy savings contribute to achieving the regional conservation goals at the lowest possible cost.

When BPA funds are used to pay for electric energy savings from federal facilities, only cost-effective conservation, as defined by the total resource cost (TRC) test in the Northwest Power and Conservation Council's (Council) most recent Power Plan and approved by BPA, will be eligible for such reimbursement. In addition, the CRC and CAA Manual, procedures, and methods, generally equivalent to those used in CRC/CAA customer relationships will be used for federal agency project relationships, including applicable M&V and oversight procedures.

1.6. Methods of Determining CRC Credit or CAA Reimbursement Level and General Requirements

BPA will review reports for the CRC credit and CAA reimbursement to determine if they meet the requirements contained in this document (see section 4.1).

There are two methods to determine the CRC credit and CAA reimbursement level:

a. Deemed: For some measures BPA has deemed the CRC credit or CAA reimbursement level. The deemed credit or reimbursement level was determined by (1) multiplying the RTF's deemed estimate of bus-bar energy savings by a set dollar amount or (2) BPA setting the credit/reimbursement levels for individual measures based on BPA's WTP. For other measures with a deemed credit/reimbursement, the PTR may require additional calculations to arrive at energy savings. When this occurs, the measure is referred to as "calculated," but is still a deemed measure. The measure list in the PTR indicates if a measure is cost-effective. If a measure is not cost-effective, the CRC credit, the High Water Mark (HWM) customer self-funded, or CAA reimbursement is zero and these funding sources cannot be selected for reporting purposes.

b. Custom Projects (CP): These are measures or projects where there is not a deemed method of determining the credit/reimbursement. In these cases the credit/reimbursement is determined by multiplying the accepted, verified energy savings[4] by BPA's WTP. Measures for which this method is used to determine the credit/reimbursement must meet the specification and funding source requirements for certain sectors or other measurement guidelines as applicable. Custom projects are discussed in detail below.

1.7. Custom Projects

Subject to acceptability of other requirements, BPA will approve CRC/CAA-funded Custom Projects initiated prior to October 1, 2009, that have expected installation dates after September 30, 2009. In the event a rate credit is not available, BPA will provide reimbursement for those Custom Projects accepted by BPA prior to October 1, 2009, through the bilateral contract mechanism.

a. In general, all measures or projects for which BPA has not deemed a reimbursement level, deemed energy savings, or for which cost effectiveness has not been determined, must be

[4] Included in the custom project template available in the PTR.

submitted as Custom Project Proposals (CPPs) and meet all of the Custom Project (CP) requirements.

b. BPA will strive to provide the customer a response within 10 working days of receiving a CPP or a CP completion report. The response will be in writing (see section 4.7.8).

c. BPA acquires cost-effective conservation as defined by the Council's Power Plan. In determining cost-effectiveness, the Council looks to Section 3.3 of the Pacific Northwest Power and Conservation Planning Act (Act) of 1980 which states: "Conservation means any reduction in electric power consumption as a result of increases in efficiency of energy use, production, or distribution." Under the Act, for example, curtailment, fuel switching, or load building activities are not conservation and do not qualify for a CRC credit or CAA reimbursement.

d. All measures presented for CRC credit or CAA reimbursement must be installed in the Pacific Northwest, as defined by the Act, in service areas of participating customers.

e. Unless otherwise approved by BPA, measures for which BPA has established a deemed credit or reimbursement level are not eligible as CPPs.

f. Unless offered as a deemed measure by BPA, conservation voltage regulation (CVR) projects, customer distribution system efficiency improvements (DSEI), distribution system upgrades for energy efficiency, and new construction or major renovation commercial/industrial construction and certain multifamily residential must be submitted as CPPs.

g. Individual CPPs with TRC B/C ratio of less than 1.0 are eligible. BPA will manage the B/C ratio at a program level and reserves the right to reject individual CPPs with B/C ratios of less than 1.0 to ensure the aggregate B/C ratio for all CPPs remains 1.0 or greater.

1.7.1 Custom Project Guidelines and Review Process

a. Measurement and Verification Acceptance Requirement

1. BPA will review the M&V plan of a CPP and the completion report for a CP before a credit/reimbursement can be reported. The CPP must be submitted and accepted before the project is begun. "Begun" means the measures have not been purchased (or ordered) or installed before the CPP is accepted by BPA.

2. If the submittal is not complete or needs additional work, the CPP may be rejected or returned for modification and the customer notified. Modification recommendations ,may

be provided by BPA. BPA's notification is considered a BPA response under the timeline requirements described at the top of this page.

3. BPA may return or reject the CPP if the M&V plan is inappropriate for the measures to be installed or if the baseline condition is not appropriately estimated. BPA's determination may include notice on the M&V plan deficiencies.
4. If a CPP is returned for modification, it may be resubmitted, in which case the 10 working day response time will restart.
5. Customers will be notified in writing when BPA accepts a CPP. The CPP will receive a reference number from the PTR. This reference number is the tracking number for the CPP and will be tied to the completion report. Only projects with a reference number are eligible to submit a completion report, which is required before a customer can claim a CRC credit or a CAA reimbursement.
6. A simple template for submitting CPPs is available in the PTR System. Once submitted to BPA the proposal is "locked" while BPA completes its review. BPA will accept, reject or return the CPP for modification. Once BPA approves the CPP, the data from the template will be transferred as a measure on the PTR and assigned a measure reference number.
7. For assistance in development of an M&V Plan, see Verification Guidelines at: http://www.bpa.gov/Energy/N/projects/cr_discount/pdf/site_specific_verification.pdf
8. BPA acceptance of the M&V plan included in the CPP is BPA's commitment to pay at the reimbursement amount that is in effect at the time of the approval, regardless of what changes to the program may occur before the M&V is completed. This M&V acceptance process may result in some rejected projects if BPA determines the results cannot be reasonably and defensibly measured.
9. A customer may request technical advice from BPA staff regardless of the size of the project or the requirement for review and comment unless they have selected Option 2 under the industrial credit/reimbursement level (see the New Industrial Construction measure listing on page 64).

b. Reject or Return for Modification

1. BPA may reject a CPP for failure to provide an adequate M&V plan.

2. BPA may return a CPP for changes to improve the adequacy of either the project description or M&V plan.
3. BPA shall make the final decision as to whether any CPP meets the eligibility requirements and criteria stated in this Manual and whether or not to accept the M&V plan for that CPP.

c. Completion report

A completion report is required for all CPs.

1. A completion report must be submitted after the project is installed and energy savings measured according to the M&V plan approved in the CPP, before a customer can include the CP in a CRC report or submit an invoice for CAA reimbursement. The completion report template, which is similar to the original report, is available on the PTR System. The customer fills out the form and submits it to BPA electronically. Actual project costs and verified energy savings must be entered into the completion report. The template will calculate the credit/reimbursement.
2. Credit/reimbursement for CPs is based on the accepted completion report data.
3. Credit/reimbursement for accepted CP completion report savings is provided in the sector-specific sections of this Manual.
4. If the customer's payment to the end-user is based on verified energy savings and the customer makes the payment based upon a reimbursement from BPA, BPA recommends the customer inform the end-user in advance that BPA's payment will not occur until after the energy savings have been verified and the completion report accepted by BPA.

d. Review and Comment

CPPs, for which the expected first year energy savings are over 200,000 kWh (this is assumed to be equivalent to a $30,000 credit/reimbursement level), require BPA review and comment in addition to BPA acceptance of the M&V plan.

1. BPA will review the CPP submitted by the customer to determine if the submitted project contains any weakness or concerns which would impact the project's ability to deliver the estimated savings, to come in at the estimated project costs, or the ability of the project to be measured and verified. BPA may also identify possible risks related to the implementation of the project and its impact on the technical process. BPA may warn the customer about potential risks and may suggest improvements, but the ultimate decision to

proceed with the project will be up to the customer and its end-users.

2. BPA reviewers may suggest alternatives to consider, identify potential lost opportunities, and make other suggestions for improvement. The customer is not required to accept BPA's comments or recommendations in full or in part.
3. If the substance of the CP changes it should be resubmitted as a CPP.

e. Project Eligibility

The customer is required to screen all CPs using the following eligibility requirements prior to submitting the CPP to BPA. These requirements are listed in the CPP template available in the PTR.

f. Eligibility requirements:

1. Deemed savings or deemed reimbursements are not eligible for inclusion in CPPs (see section 1.6(a) and (b)).
2. The proposed measures have not been purchased or installed.
3. The project does not result in fuel switching.
4. The measures are designed to result in improvements in the energy efficiency of electricity distribution or use.
5. The expected life of the energy savings for each measure is greater than one year.
6. The proposed baseline for each measure is documented and provides a basis for establishing energy savings.
7. The proposal includes an M&V plan showing how energy savings will be verified.
8. The expected project simple payback (Project Cost/Annual Energy Cost Savings) is one year or greater.

g. Project M &V Plans

The purpose of the Measurement & Verification (M&V) Plan is to provide a basis for determining the verified annual energy savings reported for each measure. The minimum requirements for the M&V Plan vary depending on the expected annual energy savings and the project details.

<u>Standard M&V Plan Requirements</u>

The Standard M&V Plan is intended for projects where the expected annual energy savings are 75,000 kWh per year or greater. This level of energy savings has enough value to support a rigorous verification. Typically, this means direct measurement of pre- and post-measure installation energy consumption and other significant

variables. Engineering calculations based on simplifying assumptions are usually insufficient for standard projects. Direct metering is not explicitly required for standard projects, but it does set the standard of rigor. At a minimum, the M&V Plan should include the following sections and address the points listed below.

1. Approach

   Outline the verification approach and why it was chosen. Detailed guidance for preparing an M&V plan is included in several standard references:

   - The International Performance Measurement & Verification Protocol, available at http://www.evo-world.org/
   - The Regional Technical Forum Appendix P Energy Savings Verification
   - Site Specific Verification Guidelines, May 1992, Bonneville Power Administration, at http://www.bpa.gov/Energy/N/projects/cr_discount/pdf/site_specific_verification.pdf

2. Protocols

   - ASHRAE Guideline 14-2002, Measurement of Energy and Demand Savings
   - Direct measurement of pre-and post-energy consumption and other significant variables is preferred

3. Assumptions

   Explain the assumptions made and state the sources of all assumed values. Show the overall significance of these assumptions to the total expected savings and describe the uncertainty inherent in the assumptions.

   Identify the significant variables that affect energy use and categorize each as "assumed" or "to be measured." Assumed values are only acceptable if they have a well-documented basis in fact and an analysis shows that plausible errors from the assumption will not significantly affect the overall reported savings. When using assumed values, use conservative assumptions.

4. Metering Plan

   For metered verifications, include a description of what will be measured, the measurement duration and the data sampling intervals, and the instrumentation to be used. Also, include details on who will perform verification and when it will be performed. If applicable, include a one-line diagram showing proposed metering locations both before and after the installation. Explain how short term measurements will be extrapolated to an annual basis.

   If measurement is not possible or practical, provide an explanation.

5. Calculations

   Show or describe the calculations to be used. Include and describe calculations to account for significant changes in production, weather, loads, hours-of-operation, setpoints, manual operation, occupancy, or other factors that affect the annual savings over the expected life of the measure.

6. Quality Assurance

   Describe activities planned to ensure good data and accurate calculations. Describe inspections, tests, commissioning, etc., to ensure that the proposed systems function as planned.

<u>Lite M&V Plan Requirements</u>

The Lite M&V Plan may be allowed for projects where the expected annual energy savings are less than 75,000 kWh per year. The value of the energy savings for these projects may not be great enough to support direct measurement of savings. If the reviewing BPA engineer does not believe the Lite M&V Plan is appropriate for a project, the Standard M&V Plan may be required. The BPA reviewing engineer may allow the Lite M&V Plan for larger projects (greater than 75,000 kWh per year) where the engineer finds it appropriate. At a minimum, the M&V Plan should include the following sections and address the points listed below.

1. Approach

   The primary method for determining the verified annual energy savings for each measure is engineering calculations. The measure(s) installed under this approach should have defensible annual energy savings values that are calculated based on commonly accepted engineering practices and reasonable assumptions.

2. Calculations and Assumptions

   Show or describe the calculations to be used. The engineering calculations should use known variables specific to the project combined with defensible assumptions. Assumptions should be

based on independent third party information such as cases studies, prototype testing, metering and evaluation reports, and/or scientific research. Document the source(s) of all assumptions.

- Energy Savings Limits

  Since many of the inputs to the engineering calculation are assumed, a best case and worst-case calculation should be made to help determine a reasonable and conservative value for energy savings. For each significant assumption, it is important to determine a realistic error boundary in order to calculate the best and worst-case scenarios. In the best case calculation, all significant assumed variables should be those that are realistic and, when occurring together, provide the highest savings. In the worst-case calculation, the significant variables that provide the least amount of savings expected should be examined. In the worst-case calculation, it is not uncommon to have no savings, or even negative savings. The final estimated energy savings value must be defensible and reasonable.

Since the engineering calculations will vary with the measure application, there is not one specific analysis tool to recommend. The US DOE is one source of potentially useful software calculation tools such as PSAT, FSAT, and MotorMaster. Using a Microsoft Office Excel® spreadsheet for engineering calculations is an easy way to document the calculations and assumptions.

3. Quality Assurance

   Describe inspections, tests, commissioning, spot or short-term measurements at the component or system level, etc., to ensure that the proposed systems function as planned. Energy savings values must be adjusted prior to submitting a project completion report if the Quality Assurance tasks reveal the as-built, as-installed, and/or as-operated conditions are significantly different than originally estimated.

1.8. Role of the RTF

The RTF collects, reviews, and distributes protocols for the verification, evaluation, and development of new methods of achieving conservation savings;

Regional Conservation Tracking:

a. The RTF has developed standardized forms and data definitions for use by retail electricity distribution customers, state and local low-income weatherization service providers, and renewable resource developers.

b. The RTF compiles data submitted and publishes an annual regional summary, which it presents to the Council. This summary compares the level of activity and expenditures reported with the Comprehensive Review's "public purpose" goals. In addition, the RTF assesses what has been accomplished through those expenditures - electricity savings achieved, low-income end-users served, renewable resource production achieved - and at what cost.

Specifically, the RTF makes recommendations to BPA regarding:

a. Cost-effective conservation measures and estimated savings associated with those measures

b. Changes in technology and standard practices through which customers can demonstrate that different savings and value estimates should apply

c. A set of protocols by which the savings and system value of measures/programs not on the list could be estimated including complex commercial or industrial projects

d. Criteria for renewable resource projects

e. Protocols for measurement and evaluation of savings or production

The RTF is independent of BPA. The RTF recommendations to BPA are for advisory purposes only and reflect the legal requirement that decisions affecting BPA's rates must ultimately be made by BPA. Consequently, BPA will decide whether to accept, reject, or modify the recommendations of the RTF.

Customers may petition the RTF to review the eligibility of new measures or measures previously deemed as not regionally cost-effective. If the RTF recommends a proposed measure as cost-effective, BPA will review the RTF's recommendations to determine whether or not BPA will pay an incentive for the measure.

1.8.1 Process for Petitioning the RTF:

Parties may initiate the process by contacting the Chair of the RTF via letter or e-mail. The party making the proposal should explain the change proposed. If a new measure is proposed, the proposal should cite the RTF criteria under which the measure qualifies for inclusion in the RTF's list. If a change in evaluation methodology is proposed, the proposal should include the rationale for the change. For example, in the case of a proposed change in protocol, the proposal should explain why the change would improve the analytical quality of the protocol. In the case of a proposed changed assumption, the proposal should present evidence that the changed assumption more closely reflects the real world. A standard form is available on the RTF Web site, which sets forth the minimum level of information needed to file the proposal.

If the proposal includes all necessary information, the staff will assess the validity of supporting arguments and evidence and make a recommendation to the RTF as to its acceptance or rejection. RTF members will receive copies of all information provided by the appealing party in support of their proposal.

If the staff assessment is that the proposal should be accepted, or that the proposal is sufficient to merit more discussion by the RTF, the proposal will be put on the agenda for discussion at the next RTF meeting. If the staff assessment is that the proposal has no merit, staff will assign the proposal to a consent agenda for rejection. If any RTF member disagrees with the assignment, it will be moved from the consent agenda to the discussion agenda.

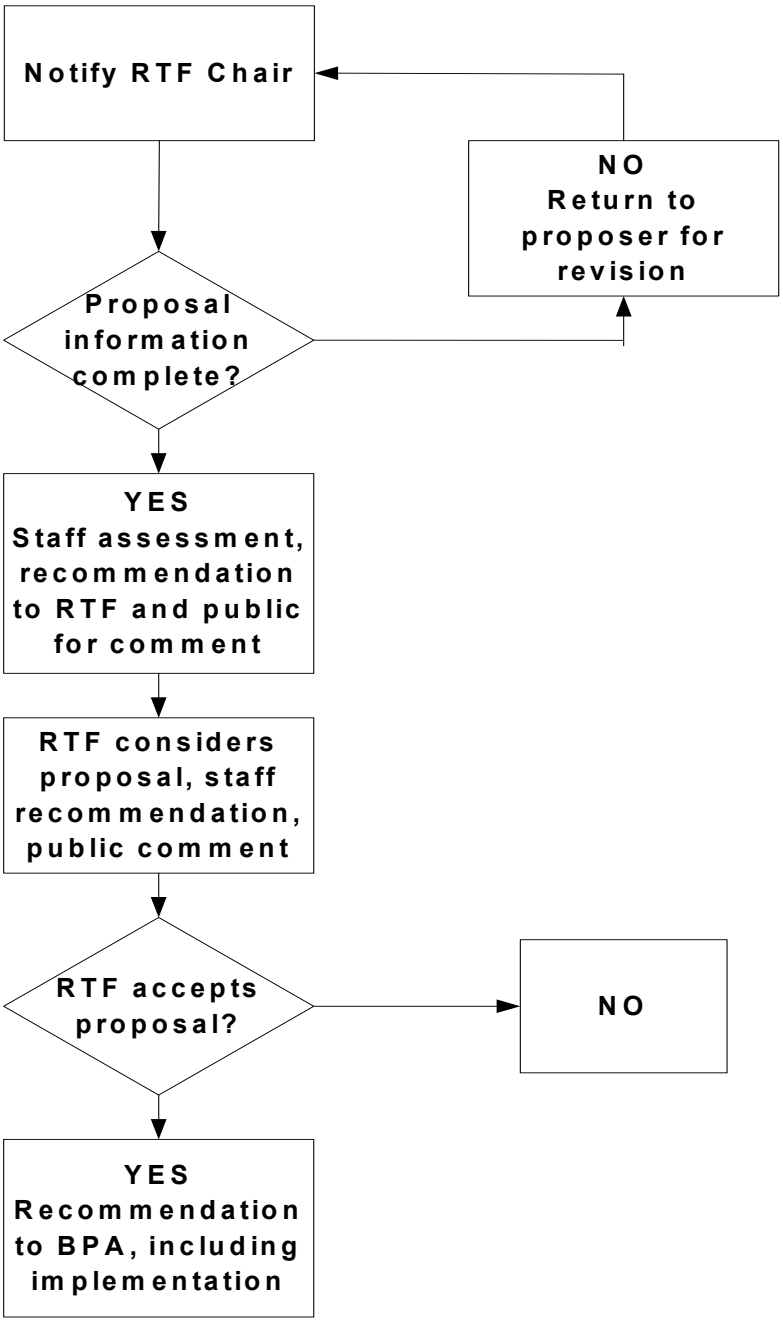
The RTF anticipates that it will normally be able to make decisions on proposals within 90 days after receiving them, although complex issues could take longer and some circumstances (e.g., health and safety) could take less time. Notice of pending actions on matters under appeal will be provided in the RTF meeting announcements and agendas. Figure 1, below, depicts the flow of a proposal through the RTF's process.

The RTF will consider the proposal, staff's assessment and recommendation, and any public comment and accept or reject the proposal. Acceptance or rejection will require a 60 percent vote by the RTF. The party making the proposal may make a presentation directly to the RTF and may contact individual RTF members prior to the meeting. Members are obligated to disclose such contacts when the proposal is under considered.

Accepted proposals will be submitted in writing to BPA as RTF recommendations with advice for implementing the changes.

BPA will respond within 30 days of the RTF recommendation, either by approving the request, denying the request, or by requesting more information. For more complex requests, BPA may need more time, but will respond with a proposed course of action and completion date within 30 days of the RTF recommendation.

Figure 1: RTF Process Flowchart



After BPA receives the RTF's recommendation, BPA will make a determination within 30 days, to approve the request, deny the request, or to request additional information.

2. Conservation Rate Credit

This section provides an overview of elements specific to the CRC. Only conservation and renewables activities or spending that exceeds what the customer is required by law or regulatory requirements to accomplish qualify. In addition to specific qualifying measures, utilities may be eligible for a CRC by contributing to a qualified third party.

This section also describes the following CRC elements: calculation of the rate credit, information on participating in and discontinuing the CRC, and special rules for pooling organizations.

2.1. General Overview of the Conservation Rate Credit Program

a. The CRC is available to BPA's Priority Firm Power (PF), Industrial Power (IP), and New Resource Firm Power (NR) customers that take action to achieve cost-effective conservation and renewable resource development in the region. Although the investor owned utility (IOU) Settlement Agreements were suspended at the time this Manual was published, if reinstated, IOU Residential Exchange benefits will qualify under the same terms and conditions as the PF, IP, and NR rates.

b. Each customer will be eligible for a CRC set at 0.5 mills per kWh applied to its PF, IP, and NR purchases. The rate credit is included in the posted rates for Subscription Power Purchases. The IOU Settlement Agreements were suspended at the time this Manual was published; if reinstated, the rate credit would be incorporated into the IOU calculation of settlement benefits consistent with the reinstatement provisions.

c. Individual participants in the CRC are obligated to make investments in cost-effective conservation and renewable resource development in the region to earn credits/reimbursements equal to their power purchases times 0.5 mills/kWh.

d. BPA will determine and make available on the PTR System information about eligible measures and specific activities that can be implemented to satisfy customer credit obligations.

e. Contributions to third party providers such as NEEA will qualify for full CRC dollar-for-dollar credit, provided that they install cost-effective conservation measures and meet all applicable requirements for measures claimed for the CRC.

f. Contributions do not qualify for an administrative allowance.

g. The PTR System will provide the specific dollar amount of eligibility contributed by each measure or provide a means for calculating such an amount.

2.2. Calculation of the Conservation Rate Credit

The CRC applies to the following rate schedules, contracts, and settlement benefits:

a. Priority Firm Power (PF-07) rate schedule

b. New Resource Firm Power (NR-07) rate schedule

c. Industrial Power (IP-07) rate schedule

d. Slice rate exhibit

BPA will determine the annual amount of the annual rate credit by multiplying the monthly rate credit by 12. The monthly rate credit will be reflected as a deduction on the customer's monthly total power bill.

The rate credit will be applied after BPA has determined all other charges and credits on the participating customer's power bill, and BPA will provide the rate credit even in those months when the rate credit amount is larger than the customer's total power bill amount.

2.3. Sources of CRC Qualifying Load Data

a. For Block purchases and Full or Partial Requirements customers, BPA will use the monthly average, rounded to the nearest whole dollar, of the projected eligible purchases for October 1, 2006, through September 30, 2009, from the BPA fiscal year[5] 2006 Wholesale Power Rate Case Sales Forecast.

b. For Slice purchases, BPA will use the Slice Initial Critical Inventory Amount (7,070 average-megawatts) to determine the average monthly load, rounded to the nearest whole dollar.

c. Although the IOU Settlement Agreements were suspended at the time this Manual was published, if reinstated, for IOU Residential Exchange customers, BPA will provide the CRC according to the terms of their current settlement contracts.

2.4. Participation in the CRC

The following describes the process for participating in the CRC, including (a) reporting requirements and (b) the final true-up.

a. Reporting Requirements

1. Utilities must report biannually to BPA via the PTR System.

2. If, at the end of the first full year of the program (October 1, 2007), the customer is not meeting its targets (i.e., the customer is claiming 50 percent or less of the rate credit received by the end of the first year of the rate period), the customer must prepare and have BPA approve an action plan by April 1, 2008, that

[5] BPA's fiscal year runs from October 1 through September 30.

provides sufficient proof of achievable intent by the end of the rate period.

3. BPA staff will be available to assist utilities in developing an action plan that will indicate how the customer will spend its CRC funds by the end of the rate period (September 30, 2009).

4. BPA's goal is for every participating customer to spend the full amount of its CRC on qualified conservation and/or renewables activities by the end of the rate period. If at the end of the 18-month period (third progress report - April 1, 2008) participants still have not made sufficient progress on their CRC spending (i.e., the customer has spent 75 percent or less of the rate credit received by the end of the first 18 months of the rate period), BPA may send a notification letter that the CRC will be withdrawn for the third year of the program. Such customers will be required to pay the full PF or other appropriate power rate so the CRC funds can be reallocated.

b. Final True-up

1. At the end of the third year of the CRC program (September 30, 2009), there will be a final true-up required for participating utilities. As a part of this process, utilities must have submitted all required reports and paperwork, and such paperwork must be on file with BPA's Contracting Officers Technical Representatives (COTRs). This paperwork includes: (1) signed hard copies of the biannual electronic CRC reports, electronic signature proxies (/s/) will qualify as a signed copy and (2) Acceptable Agreed Upon Procedures reports (see section 4.1).

2. If there are missing Agreed Upon Procedures reports, or if the existing reports do not adequately document the time period being covered, the tests that were made, and the results of those tests, utilities are encouraged to have their state auditor or CPA firm conduct a close-out review covering the entire time period when CRC claims were made.

3. Customers can request, in writing, that BPA start the close-out and true-up process to determine if they have satisfied their CRC program obligations. Otherwise, BPA will start the process as soon as practical after September 30, 2009.

4. BPA will conduct oversight visits to determine if requirements have been met. The customer will be notified of any deficiencies in a findings report.
5. The BPA COTR will determine if what is in the customer file is equivalent to the required documentation.
6. Once BPA is satisfied that the customer has met all of the CRC program requirements, BPA will notify the customer in writing.

2.5. Discontinuing Participation in the CRC

A customer may elect to discontinue participating in the CRC any time during the rate period. If a customer decides that it wants to discontinue receiving the CRC on their power bill, it must notify BPA in writing, and BPA will remove the CRC from the customer's future power bills. At that point, the customer will be required to submit a Final Reconciliation Report as described in **section 2.12.**

2.6. Rules for Pooling Organizations

Forming pooling organizations to implement cost-effective conservation is a contractual relationship among the pooling members. BPA will not monitor contractual relationships or activities of pooling organizations.

a. Pooling utilities, regardless of the size of individual loads, can only claim a maximum of 15 percent of their qualifying budget as administrative costs.
b. Pooling utilities are responsible for reporting their individual conservation costs and savings for determining their CRC. Utilities in the pool can assign this responsibility to the pooling organization, but are still responsible for what the pool reports on their behalf. In the case of renewables, the customer would report the CRC allocated by the pool based on the output of the qualified renewable resource.
c. The pooling organization shall provide a summary report to BPA on a semi-annual basis documenting the conservation costs and savings reported by each participant. The savings and CRC for both conservation and renewables would be allocated and determined by the pool. Double counting of credits is not permitted.
d. A customer may put all or a portion of its CRC toward a pool and withdraw under the terms and conditions agreed to by the pool, not under terms specified by BPA. Pool membership can expand or contract as determined by the pool.
e. Trading of the CRC is allowed within the pool. This allows a member to capture an amount above its CRC as determined by the 0.5 mill cap, by utilizing another pool member's unused CRC.

3. Conservation Acquisition Agreement

This section provides an overview of elements that are specific to the Conservation Acquisition Agreement (CAA). Utilities should notify their Energy Efficiency Representative (EER) if they are interested in participating in the CAA.

The following discusses the procedure for establishing a CAA and the procedure for making changes to the implementation budget.

3.1. Establishing a Conservation Acquisition Agreement

The structure of the CAA contains terms and conditions applicable to the overall purchase of energy savings through the bilateral mechanism. The exhibit provides terms and conditions specific to measures or outlines processes and conditions that must be met in order to receive reimbursement from BPA.

Customers may establish either (a) a Non-Standard CAA or (b) request a standard offer.

a. Non-Standard CAA

To initiate a Non-Standard CAA (section 3.3), customers should submit a proposal to their EER that includes:

1. The measures
2. Metering and savings verification method to be used
3. Sector-specific reimbursement rate for those measures
4. Estimated installation cost
5. Total implementation budget amount
6. The proposed delivery approach

BPA will review the proposal submitted, ask any clarifying questions and, if acceptable for purchase, negotiate final terms for the agreement.

b. Standard Offer

The standard offers that run through September 30, 2007, have been replaced in FY 2008 by the Multisector Standard Offer (MSO). The MSO takes effect when executed and runs through September 30, 2009.

For the MSO, customers request a CAA and an implementation budget amount. The implementation budget amount requested should match the expected expenditures for the service area for the term of the agreement. This request should be made to the EER directly.

BPA will review the request submitted and, if the request is accepted, develop a draft CAA. Generally, BPA will provide a draft CAA to the customer for review. Once the CAA is in final form, two originals will be sent to the customer with a request that both be signed and one original be returned to BPA.

3.2. Changes to Implementation Budget Amounts

Changes by BPA

BPA reserves the right to review actual budget expenditures relative to the initial implementation budget amount and the period of time remaining under the agreement. BPA, working with the customer, may review the actual expenditure rate and lower the implementation budget amount if the budget provided in the agreement cannot be fully utilized during the term of the agreement. BPA will take into account projects that are in process and have a reasonable chance of being completed as part of working with the customer to make this decision.

Changes by Customers

Customers may at any time during the agreement request additional budget for standardized offers and custom agreements. BPA will review such requests, taking into account actual expenditures, projects in process, and potential new projects, and may add budget to projects in the CAA.

Requests for additional budget should be sent to the EER in writing, identify the additional amount requested, and include information on actual or potential projects supporting the increase in funding. If the request is approved by BPA, BPA will send a notice increasing the budget amount.

3.3. Non-Standard Offers

BPA will enter into non-standard purchases of energy savings when there is a benefit to BPA. The benefits include, but are not limited to, a reduction in the reimbursement amount paid or the staff time spent administering an agreement. BPA understands and expects customers entering non-standard agreements will also benefit from such agreements.

Non-standard purchases are arrangements BPA negotiates with a customer which results in a variation from published WTP amounts or from the standardized processes established in the Manual. A non-standard agreement is not a "custom proposal" submitted to BPA through the PTR.

Non-standard purchases made by BPA are subject to the overarching principles written into BPA's Final Record of Decision (February 2005) on the short term Regional Dialogue, as well as the overarching requirements of the Manual in effect at the time of the negotiations. Agreements will address cost-effectiveness, measurement and verification, documentation, oversight, reporting and reimbursement and the programs/measures planned for installation by the customer.

Through the negotiations, BPA will strive to:

- Develop agreements providing flexibility and ease of administration
- Provide consistency among BPA and customer self-funded projects to minimize complexity and ease PTR reporting
- Develop smooth transitions from existing activities to new activities, as well as plan for transitions to subsequent agreements

4. General Requirements

The general requirements section discusses those requirements applicable to both CRC and CAA and consistent across all sectors. There are specific requirements for CRC and CAA activities and specific requirements by sector. For additional requirements, please see the appropriate section.

This section discusses reporting requirements, administrative allowance, the agreed upon procedures report for administrative activities, small customer requirements and information, and federal due diligence requirements.

4.1. Reporting Requirements

Table 2: Reporting Schedule

Date	Description of Activity
10/31/07	2nd biannual CRC reports for FY 2007 are due for April 1 to September 30
4/30/08	1st biannual CRC reports for FY 2008 are due for October 1 to March 31
7/15/08	Customer proposed renewables for FY 2009 is due
10/31/08	2nd biannual CRC reports for FY 2008 are due for April 1 to September 30
4/30/09	1st biannual CRC reports for FY 2009 are due for October 1 to March 31
9/30/09	Year three of the CRC/Rate Period ends (October 1, 2006, to September 30, 2009)
10/31/09	2nd biannual CRC reports for FY 2009 are due for April 1 to September 30
11/30/09	Final reconciliation report due from participating utilities. Program participants' agreed upon procedures reports on the certification and balances for FY 2009 are due.
12/31/09	Revised final reconciliation report and reimbursement from utilities whose qualifying activities/expenditures do not equal or exceed their cumulative CRC amount. Program participants' agreed upon procedures reports, on the certification and balances for FY 2009 are due.

4.1.1 Reporting Requirements

This section explains the reporting requirements and reporting services available for the CRC and CAA. This includes (1) the types of reports required (2) the PTR reporting system, (3) documentation, and (4) the review process.

a. Types of Reports Required

- A CRC biannual report is required, and utilities may submit CAA invoices as often as monthly

b. Utilities are required to report their CRC activity as follows:

- CRC participants will submit a report by April 30 for the period October 1 to March 31 for each year during the rate period
- CRC participants will submit a report by October 31 for the period April 1 to September 30 for each year during the rate period

Each customer shall establish files and maintain supporting documents and records for each submitted report for each and every item listed including administrative costs. The files for all reports shall be clearly designated as BPA credit/reimbursement files. The records shall be sufficient to document that the item reported is accurate and can be substantiated to meet BPA's due diligence in the spending or crediting of federal funds.

Utilities shall keep all program report records (including administrative reports discussed below) for no less than three years after the term of the current rate case or through 2012, whichever is later, and these records must be organized and maintained in such a manner that pertinent records can be found when needed.

4.1.2 PTR Reporting System

When submitting a report for credit/reimbursement, the customer must use the PTR System at http://ptr.nwcouncil.org/. The system will accommodate other funding sources, and utilities are encouraged to report conservation activity funded by sources other than BPA using the PTR. These items can be included in the biannual reports, but should not be included in any CAA monthly report.

In submitting reports for credit/reimbursement, the PTR will guide the customer through the submittal requirements, which include:

a. Confirmation that the customer implemented the items for which they are claiming CRC credit or CAA reimbursement in compliance with the Manual and applicable contracts.

b. Identification of the percentage of administrative allowance the customer claims for the reported items. All CRC administrative claims are limited by the customer's total CRC eligibility. All

CAA administrative cost claims are limited by the CAA invoice amount.

All reports must include only measures with completion dates within the performance period specified. Completion dates are for completed units/measures (i.e., a unit that is properly installed, operating and, when applicable, commissioned in accordance with the manufacturer's requirements and specifications for normal operations and, as applicable, has satisfied or met the requirements for that measure), or approved completion reports. Documentation retained by utilities for each submitted report should clearly indicate the reporting period and the report with which they are associated.

Unless otherwise approved by BPA, BPA will not credit/reimburse for measures not reported in the PTR System.

4.1.3 Documentation Requirements

Documentation is required for all claims made to BPA. All customers must follow the general requirements (listed below), while some measures have additional specific requirements. Where additional measure specific requirements exist, they are included in the requirements section for that measure. Measures may be claimed in the first reporting period following the end of the eligibility period, provided the documentation illustrates the measures were purchased and were in service (installed and operating) during the eligibility period.

The following are the general documentation requirements for all deemed measures and CPs:

a. End-user address/facility name, address and telephone number
b. Contact name and phone number is required for commercial, industrial and CPs
c. Unique identification number (e.g., address, meter number, etc.) for end-users (for most measures)
d. Unique identifying PTR system-generated number from the system report or invoice
e. Supporting documentation for claimed administrative costs
f. Invoice or other document showing purchase date (relevant for eligibility period) and validating that equipment is new. (Note: Rebuilt nozzles are considered "new.")

Dates are required on all documentation, and vary by the measure and by program requirements (deemed or custom). Below are generalized requirements for dates:

a. For CPs, the dates for equipment purchases must be after BPA's approval of the M&V plan.
b. The pre-measurement date must occur before installation and the post-measurement date after installation.

c. For deemed measures, the purchase date must be after the execution date of the Early Start Participation Agreement, Exhibit B to the Subscription Contract for the CRC, and/or the execution date of the appropriate Standard Offer for the CAA); or October 1, 2006, for High Water Mark measures claimed.

d. For ENERGY STAR® Homes and manufactured homes, the certification date must be after the execution date of the Early Start Participation Agreement, Exhibit B to the Subscription Contract for the CRC, and/or the execution date of the appropriate Standard Offer for the CAA)

e. October 1, 2006, for High Water Mark measures claimed.

f. Inspection and verification dates must be after equipment installation and before the Report/Invoice date.

In some situations, one document is sufficient for a category of measures. Customers are encouraged to periodically review and update these types of documents. Examples include:

a. High Performance Lighting Cut Sheet – if the same equipment is installed in several facilities, a single Cut Sheet may be retained as documentation for the measure

b. List of ENERGY STAR appliances – this list can be printed from the ENERGY STAR Web site and kept in the file

Documentation must be retained by customers to support reimbursements and credits claimed, as well as for energy savings claimed for Utility Self-Funded measures. Depending on the measure, all or some of the information about the measure installed must be entered into the PTR system.

4.1.4 Review Process

As a part of the review process, BPA will (a) review customer records and (b) make program evaluations.

a. Record Review

BPA will, as part of its review process, ensure that the credit/reimbursement report is reasonable and corresponds with any and all attachments. Should there be a disagreement regarding a submitted report, BPA and the customer agree to work together to correct errors in the report and any revisions shall be included in the revised report. The parties shall make reasonable efforts to make adjustments as soon as possible after BPA's receipt of the report.

The report submitted to BPA should include, through attachment or referenced e-mail, supporting documentation that may be required. Supporting documentation must include unique identification information. For CRC, this is the reporting period information. For CAA this is the invoice number from the report.

The unique identification information should also be kept with the customer files for all supporting documentation which is not submitted with the report, but which is required to substantiate the reports.

The PTR will track the CRC credit balance and the CAA contract balances as reports are filed. BPA will make this information available to the customer as part of the reporting process.

BPA or BPA's agent will conduct oversight inspections of all report records and monitor or review the customer's procedures, records, conduct sites visits and verify energy savings methods and results. The number, timing, and extent of such inspections shall be at the discretion of BPA, but will be coordinated with the customer. BPA will provide written notice not less than 30 days prior to such an inspection. These inspections shall occur at BPA's expense.

BPA may contact appropriate federal, state, or local jurisdictions regarding environmental, health, or safety matters related to any activity or measure/unit/project credited or reimbursed under the CRC or CAA.

Financial audits shall be in compliance with the audit standards established by the Comptroller General of the United States.

b. Program Evaluation

Evaluations are needed to determine barriers to program success, identify ways to improve programs, help track program accomplishments, assess market conditions, determine the accuracy of savings estimates, and to answer the ultimate question of whether programs are meeting their expected goals.

1. BPA may conduct, and the customer shall cooperate with, evaluations of conservation impacts and project implementation processes to assess the amount, cost effectiveness, and reliability of conservation in the customer's service area or region. After consultation with the participating customer, BPA shall determine the timing, frequency, and type of such evaluations.
2. BPA anticipates that many of the evaluations will be done collaboratively with other organizations to share costs and to improve the usefulness of the evaluations. In some cases, the evaluation will be managed by another party on behalf of BPA.
3. BPA will determine the specific requirements for evaluations with consideration for the schedules and reasonable needs of the customer and the customer's customers.

4. Any evaluation of the project initiated by BPA shall be conducted at BPA's expense or shared regional expense, and such costs shall be excluded from the implementation budget. Customers or other entities that cooperate with the evaluation are recognized as providing some resource/cost, but the cost will not be considered for direct reimbursement by BPA.

4.2. Administrative Allowance

The administrative cost allowance incurred is intended to cover internal customer administrative costs in support of energy conservation activities described in this document. The administrative allowance is above and beyond the BPA WTP parameters. Utilities can decide when they submit each CRC report or CAA invoice the percentage of their funds they want to claim for the administrative allowance, up to the allowable limit. A customer is allowed to have different administrative allowance percentages for CRC and CAA.

In general terms, allowable administrative allowances can include costs for staff-related administrative costs, marketing, general energy efficiency awareness building, training, technical assistance costs, evaluations, equipment, and supplies. Each of these categories is described below. This is not an exhaustive list. If utilities have any questions, they can contact BPA for clarification.

<u>Staff Costs</u> (actual labor costs used to operate the customer's conservation program, including program planning, design, and implementation):

a. Direct costs incurred for the implementation of CRC or CAA conservation activities, including customer program staff, and sub-contracts

b. Contracted staff support that may be required for activities such as data entry for planning, tracking, and reporting system, administering credits and reimbursement or for field staff to verify installations or other end use activities

c. Management personnel involved in the supervision of program staff and contractors

d. Administrative support such as secretarial support, contractors and managers associated with the customer's program-related activities

e. The customer's conservation-related share of indirect overhead, including the customer's cost related to preparing the Agreed Upon Procedures

<u>Marketing Costs:</u>

a. Market research, development of advertisements, and promotional materials

b. Production of materials for mass distribution

c. Marketing material distribution costs

d. Airtime on radio or television in support of cost-effective conservation

Other Costs incurred in operating program:

a. Computer hardware

b. Technical equipment (metering equipment, software programs)

c. Marketing training and technical training, including certain training for engineers for specific applications and other required technical training

d. Transportation/travel costs are capped at the level allowed under the Federal Travel Regulations (see http://www.gsa.gov/)

4.3. CRC Administrative Cost Guidelines

A qualifying claim is defined as an installed qualifying cost-effective electric conservation measure. Examples that do not qualify for administrative allowances include:

a. Renewables claims

b. Third Party contracts for cost-effective energy conservation, unless specifically approved by BPA as qualifying for administrative cost recovery

c. Northwest Energy Efficiency Alliance (NEEA) contributions

Utilities with more than 7.5 average megawatts (aMWs) of net requirements load can claim up to 15 percent of their qualifying claims (see section 4.6).

Utilities are allowed discretion on the amount and timing of administrative cost claims during the rate period. However, at the end of the rate period (September 30, 2009), utilities are required to true-up their administrative claims to meet both of the following requirements:

a. A customer's administrative cost claims cannot exceed the allowable percentage (i.e., 15 percent or 30 percent) of their qualifying claims, as defined above.

b. A customer's administrative cost claims cannot exceed the amount of customer administrative costs that the customer has actually incurred and can document as described in section 4.2. Utilities are required to document allowable administrative costs via an Agreed Upon Procedures Report as described in Section 4.5.

The following table represents examples of claims under the CRC.

Table 3: Examples of Claims under CRC

Budget: $300,000 - $100,000 spent for renewables - $ 50,000 spent on donations $150,000 available for measures and qualified for 15% admin $ 22,500 allowed for admin $127,500 additional is left to use for measures and in support of getting measures into place (WTP)	**Budget:** $300,000 - $ 0 spent for renewables - $ 0 spent on donations $300,000 available for measures and qualified for 15% admin $ 45,000 allowed for admin. $255,000 additional is left to use for measures and in support of getting measures into place (WTP)

4.4. CAA Administrative Cost Guidelines

A customer's administrative allowance is claimed as a percentage of their invoiced measures reported with each invoice

BPA will pay an administrative allowance of up to 15 percent of the actual accepted invoiced amount. On each invoice submitted, the customer may elect the percentage of administrative allowance for that invoice.

The following table represents examples of claims under the CAA.

Table 4: Example of Claims on the CAA (Bilateral) Side

Budget (not WTP) for ESO+: $200,000 $100,000 spent on measures over three years and in support of getting measures into place $ 15,000 admin allowance $ 85,000 unspent that must be de-obligated	**Budget for Custom Program:** *(multifamily new construction, direct install, weatherization)* $200,000 $170,000 spent on measures over three years and in support of getting measures into place $ 30,000 admin allowance $ 0 unspent that must be de-obligated

4.5. Agreed Upon Procedures Report for Administrative Activities

For both the CRC and CAA, BPA requires that customer costs for administrative activities be verified by a certified public accounting (CPA)

firm or state auditor. This is to assure that the information submitted to BPA in applications and reports is supported by adequate documentation and accounting records. Such documentation and records are to be maintained in accordance with the participant's policies and procedures.

It is BPA's objective to keep the cost of performing the work to the minimum possible. To keep these costs low, BPA expects program participants to negotiate relatively low cost "agreed-upon procedures"[6] work with their CPA firms/auditors whenever possible.

This section does not suggest that an agreement be made between BPA and the customer on the nature of the agreed-upon procedures. It is BPA's intent that the customer should agree upon the procedures with its CPA firm/auditor.

Annual reports from the state auditor or the CPA are due annually (or for utilities under 7.5 aMW, once during each rate period) and shall include the following:

a. The name of the customer
b. The time period covered by the report (i.e., beginning and end dates)
c. The amount of costs incurred for allowed administrative activities (as described in section 4.2) for both CAA and CRC and whether these amounts are equal to or more than the administrative allowances that the customer has claimed for credit or reimbursement (CAA and CRC costs should be accounted for separately).
d. A description of and results of tests that were performed to review the administrative costs for allowability
e. A statement that the customer has appropriate policies and procedures, and an accounting system that is capable of tracking CRC and CAA programs

<u>Sample CPA firm/auditor statement language:</u>

> "The auditor of record has determined that the customer has sufficient records to indicate that the customer's costs, either direct, indirect or overhead, are equal to or exceed the amount of administrative allowance claimed through its agreements with BPA."

The required state audit or CPA audits of the customer must address whether the customer has documented administrative

[6] Agreed-Upon Procedures" is a specific technical term that has specific meaning to auditors and accountants. The American Institute of Certified Public Accountants (AICPA) Statements on Standards for Attestation Engagements No. 10 provides guidance for performing agreed-upon procedures engagements, including an illustrative report.

costs related to the pursuit of conservation. BPA will not duplicate that external review.

Utilities who are not familiar with running energy conservation programs or who did not participate in BPA's C&RD program are encouraged to discuss with their CPA firm/auditor the following:

- Can the customer define what basis and related documentation will be used to support the reporting elements for either the CRC or CAA program
- Does the customer have policies and procedures and an accounting system in place capable of tracking the elements described above?

<u>An Agreed Upon Procedures Report is required if a customer:</u>

- Has a CAA contract or
- Claims administrative costs under the CRC

Note: An Agreed Upon Procedures Report is not required if customers only claim donations to NEEA, or for a purchase of Environmentally Preferred Power (EPP) or other renewables.

If the customer's documented administrative costs are less than what the customer has claimed in their CRC reports or CAA invoices, the customer will be required to correct their CRC report to account for the change or to reimburse BPA in the case of the CAA.

4.6. Small Utility Requirements and Information

The following information contains requirements specific to small utilities (7.5 aMW or less of net requirements load). These sections highlight the occasions when small utilities are treated differently than their larger counterparts. For more information on a specific topic referenced, please see the main section of the Manual. Unless otherwise noted, all other requirements apply equally to small utilities.

4.6.1 Administrative Costs

BPA will allow small utilities up to 30 percent of their rate credit for administrative costs. BPA intends that the administrative cost allowed under CAA and CRC be an allowance, not a reimbursement of actual documented costs (other than state/CPA audit review for existence of sufficient administrative cost to justify the claim). (Larger utilities are allowed up to 15 percent for administrative costs.)

Once per rate period, small utilities must submit CPA or auditor's reports addressing whether the customer has documented administrative costs related to the pursuit of conservation activities equal to or in excess of the actual administrative allowance that is claimed against the CRC and CAA. (For larger utilities, these reports are due annually.)

4.7. Fundamental Requirements Related to Federal Due Diligence

The purpose of this section is to apply to the terms of the CRC and CAA the following standard provisions for the purposes of meeting the federal governments requirements for due diligence in the expenditure of federal funds and the dedication of federal staff.

4.7.1 Purchase of Energy Savings

BPA's purchase commitment contained in this Manual applies to the customer and any applicable customer sub-contractors, contracted third parties and contract staff responsible for a portion, regardless of percentage, of time worked related to the implementation, management, record keeping, or any other related involvement of the customer activity funded through BPA credit/reimbursement.

BPA shall not be obligated to pay for energy savings from measures/ projects/completed units prior to the effective date of the CRC or a CAA or delivered after these initiatives end or after the implementation period unless otherwise specified in an agreement.

4.7.2 Other Sources of Funding

a. If requested in writing and approved by BPA, BPA and the customer may agree to the allocation of costs among various funding sources.

b. BPA will not pay for <u>any portion</u> of the cost of a project where those costs have been or will be reimbursed, received payment for, or otherwise given credit under any other BPA or other federal contract or financial assistance agreement.

4.7.3 Suspension and Withholding Payment

a. BPA and the customer agree to an immediate suspension of any measure, which presents a significant environmental, health, or safety threat to end-users.

b. BPA shall not accept a report for credit/reimbursement for any suspended measure during the suspension period. The customer shall remedy or take actions agreed to by BPA to correct the environmental, health or safety threat to end-users. The customer shall have a number of days as agreed to in writing by BPA, to remedy or complete the corrective actions. The customer will notify BPA when the remedy or corrective actions are complete.

c. If BPA determines the customer's implementation of the CRC or CAA is not in compliance with the environmental, technical, or record-keeping requirement, BPA shall provide a written notice to the customer suspending implementation of all or specific activities and identifying the specific nature of the noncompliance. BPA will provide comments on what activities

are required to bring the activity into compliance. BPA shall not accept reports for any measure implemented under a suspended activity. BPA shall review the corrective actions and make a determination on lifting the suspension. BPA will notify the customer of its determination. If the suspension is lifted by BPA, the customer may begin implementation of the CRC or CAA with the changes required by BPA under its determination.

d. If BPA suspends a customer activity as noted in "c" above, the customer shall have a number of days as agreed to in writing by BPA, to correct the noncompliance identified and notify BPA when the corrective actions have been completed. BPA shall review the corrective actions and make a determination on lifting the suspension. BPA will notify the customer of its determination. If the suspension is lifted by BPA, the customer may begin implementation of the activity with the changes required by BPA under its determination.

e. If the customer does not complete the remedy or corrective actions required then BPA may terminate funding.

f. The customer shall bear the costs of compliance.

4.7.4 Termination

a. The customer has the right to terminate funding upon no more than 60 days written notice, or upon 30 days written notice for CAA. The customer shall have one year from the effective date of termination pursuant to this section to complete work in progress, unless otherwise negotiated in subsequent agreements.

b. BPA may terminate funding when any of the following occur:

    1. The customer has failed to comply with the environmental, technical, or record-keeping requirements.

    2. The customer has failed to comply with the requirements of this Manual.

    3. The customer becomes insolvent, files a petition for bankruptcy or reorganization, or assigns substantially all assets to creditors.

    4. The customer gives notice to BPA of its intent to terminate or terminates an existing or successor firm power sales contract with BPA.

4.7.5 Environmental Provisions

The customer and BPA agree to

a. Comply fully with all applicable environmental laws and regulations

b. Assist and cooperate with meeting all environmental obligations, to the fullest extent economically and technically practical and mutually agreeable

c. Provide, upon request of the other, a copy of the pollution abatement plans as required by the Clean Air Act, by the Clean Water Act, by other federal statutes, or by an agency having jurisdiction and within a reasonable time submit evidence such plans have been approved or have not been objected to by agencies with jurisdiction

4.7.6 Standard Provisions

a. The Information Exchange and Confidentiality section of the Power Sales Agreement is expanded for the purposes of this agreement to include BPA's obligations under the National Operations Security Program (OPSEC).

b. For CRC: the CRC Conservation Agreement includes all pertinent provisions related to CRC or those applicable to both funding initiatives, included in document, including appropriate appendixes. For CAA: The CAA Conservation Agreement incorporates appropriate provisions from this Manual and is the single source of the commitment between the parties.

4.7.7 Liability

a. To the extent allowed by the Federal Tort Claims Act, BPA agrees to defend, indemnify, and hold harmless the customer, its affiliated companies, their respective boards of directors, officers, employees, agents and representatives, against and from any and all loss, claims, actions, or suits, for or on account of injury, bodily or otherwise to, or death of persons, or for damage to or destruction of property belonging to the customer or others, resulting from BPA's negligent acts or omissions or intentional misconduct in connection with the performance of the Manual, excepting that any liability attaching to BPA shall be reduced by any proportion that such injury or harm is caused by negligence or intentional misconduct of customer, its affiliated companies, their respective boards of directors, officers, employees, agents or representatives.

b. Customer agrees to defend, indemnify, and hold harmless BPA, its employees, agents and representatives, against and from any and all loss, claims, actions, or suits, for or on account of injury, bodily or otherwise to, or death of persons, or for damage to, or destruction of property belonging to BPA, or

others, resulting from the customer's negligent acts or omissions or intentional misconduct in connection with the performance under the Manual, excepting that any liability attaching to customer shall be reduced by any proportion that such injury or harm is caused by negligence or intentional misconduct of BPA, its employees, agents or representatives.

c. BPA and the customer assert that neither is the agent or principal for the other, nor are they partners or joint ventures, and BPA and the customer agree that they shall not represent to any other party that they act in the capacity of agent or principal for the other.

d. In no event shall either BPA or the customer be liable to each other for any special, punitive, exemplary, consequential, incidental, or indirect losses or damages from any failure of performance howsoever caused, whether or not arising from a Party's sole, joint, or concurrent negligence.

e. The customer agrees that BPA has no responsibility for production of Energy Savings under this Agreement.

f. BPA and customer agree to require that independent contractors of each indemnify and hold harmless the other from all claims, damages, losses, liability, and expenses arising from breach of contract, statutory and regulatory claims, and the negligent or other tortuous acts or omissions of such independent contractors, their officers, employees, or agents. Nothing in this Manual shall establish, or be construed as establishing, a contractual relationship between BPA and any contractor or subcontractor hired by the customer.

4.7.8 Notices

Any notice required under this agreement shall be in writing and delivered in one of the following ways:

a. In person

b. By a nationally recognized delivery service

c. By United States Certified Mail

d. By electronic mail to e-mail addresses that are designated at the time agreements are signed

Notices are effective when received. Either BPA or the customer may change its address for the purposes noted above by giving notice of such change in the manner noted above.

5. Agricultural Sector

BPA Agricultural Sector Lead: Brad Miller

This section contains general information about Agriculture, including irrigation and measure-specific information, with a description of the measures and any related changes, technical specifications (some specifications may be located in the PTR), credit/reimbursement levels and associated tables and any documentation requirements.

Measures

General Agricultural Sector Information 38
Irrigation-Related Measures 38
Freeze Resistant Stock Water Tanks/Fountains 40
Motors 40
New Construction Lighting 42
Other Agricultural Measures 42
Scientific Irrigation Scheduling 43
Transformer De-energization 44
Variable Frequency Drives on Small Milking Machines in Dairies 45

Agricultural Sector Definition

Electrical energy used by a farm business whose primary purpose is land cultivated for food production or land used for breeding or raising of domestic live stock (including fish, oysters, etc.).

Any on-farm measures are considered "agricultural," with the exception of major processing of farm products on-site. This sector also includes any lands involved in major irrigation loads, regardless of the business purpose.

The distinction between agricultural and industrial generally rests with the property line. Processes off farm are industrial; on farm are agricultural.

Examples:

- Dairies and storage of milk is agricultural; pasteurizing, homogenizing, dehydrating, and bottling of milk, ice cream, cheese and butter production is industrial.
- Potato storage on-farm is agricultural; potato storage at a co-op or at a processor is industria.l
- Pumping for fish farms and refrigeration of fish before shipping is agricultural; freezing, storing, and canning of fish is industrial.
- Orchard fruit stored temporarily on the farm, like grain, milk, or potatoes, is agricultural, but if it is centrally stored by a middle-man, co-op, or processor, it is industrial.
- Wineries are agricultural if the wine is grown, stored, pressed, cooled, and bottled on the farm.
- Golf courses with irrigation load are agricultural for the purposes of their irrigation loads.

The nature of the choice is tied to the load and the process as much as it is to the building or business type.

General Agricultural Sector

On-farm measures should be considered agricultural, and any storage, processing (transportation) or other activities involving farm products off the farm should be considered industrial food processing. The property line is a good surrogate for demarcation.

Utilities that have a CAA contract with a Commercial/Industrial Lighting budget may use that budget to claim reimbursements for lighting in agricultural facilities. These claims must be entered in the PTR System.

Agriculture is a cash-constrained sector that requires significant motivation to make investments. Credits/reimbursements will be roughly based on $0.15/kWh not to exceed 70 percent of the incremental installed measure cost. The measures listed in table A-1 will be paid as shown in table A-1.

Irrigation-Related Measures

Requirements and Specifications

BPA will accept claims for CRC credit or CAA invoices for reimbursement for verified energy savings of energy efficiency upgrades to new or existing irrigation systems and water management. This is only on the condition these facilities have been designed, constructed, and verified in substantial compliance with the most recent irrigated agriculture specifications that are available in the PTR, under Downloads.

Documentation Requirements (If any specifically required)

For nozzles and sprinklers, the customer must document with equipment invoices and a unique ID number or other field location identifying site of installed measures.

Reimbursement Levels and Strategies

Table A-1: Credits/Reimbursements for Agricultural Measures

Sprinkler Equipment	Rebate	Est. Savings
1. New flow controlling type nozzle for impact sprinklers.	$3.00/nozzle [1]	20 kWh/yr
2. (a) Rebuilt or new impact sprinklers. (b) New nozzle for impact sprinkler replacing existing worn nozzle of same flow rate or less.	$3.75/sprinkler [1] $0.25/nozzle [1]	25 kWh/yr 15 kWh/yr
3. New rotating type sprinklers that replace impact sprinklers. (Entire pivot [2] must be upgraded. Flow may not be increased.)	$3.00/sprinkler [1]	40 kWh/yr
4. New gasket for wheel lines, hand lines, or portable main line.	$1.00/gasket	30 kWh/yr
5. (a) New low-pressure regulators. (Entire pivot [2] must be upgraded.) (b) New rotating type sprinklers that replace low-pressure sprinklers. (Entire pivot [2] must be upgraded. Flow may not be increased.)	$3.00/regulator [1] $3.00/sprinkler [1]	20 kWh/yr 20 kWh/yr
6. New multiple configuration nozzles for low-pressure pivot [2] sprinklers.	$2.00/sprinkler [1]	20 kWh/yr
7. New multi-trajectory sprays that replace impact sprinklers. (Entire pivot [2] must be upgraded. Flow may not be increased.)	$2.00/sprinkler [1]	25 kWh/yr
8. New multi-trajectory sprays that replace low pressure sprinklers. (Entire pivot [2] must be upgraded. Flow may not be increased.)	$1.00/sprinkler [1]	10 kWh/yr
9. New drains for wheel lines, hand lines, or pivots [2]. (Entire line must be upgraded.)	$1.00/drain	30 kWh/yr
10. New hubs for wheel-lines. (Entire wheel line must be upgraded.)	$6.00/hub	40 kWh/yr
11. New "goose neck" elbow for new drop tubes.	$1.00/goose neck	20 kWh/yr
12. New drop tube for low-pressure pivot [2] sprinklers (min. 3 feet length).	$3.00/drop tube	20 kWh/yr
13. New center pivot base boot gasket.	$125.00/pivot	850 kWh/yr
14. Cut and pipe press repair of leaking hand lines, wheel lines, and portable mainline.	$8.00/pipe section	60 kWh/yr
15. Rebuilt or new wheel-line leveler.	$0.75/leveler	60 kWh/yr

Note: *Number 2: has been broken into two parts, the sprinkler and the nozzle. This allows for the nozzle to be replaced separately from the sprinkler. The current offer assumed the nozzle would be replaced at the same time as the sprinkler. The change allows for either/or. Number 5: has been broken into two parts, 5(a) and 5(b). This allows for the upgrade of the regulators if new rotating sprinklers are already in place or for the installation of new rotating sprinklers if low-flow regulators are already in place.*

[1] Rebate limited to no more than two units per sprinkled acre.
[2] Lateral moves also included.

Freeze Resistant Stock Water Tanks/Fountains

Requirements and Specifications

Installation of freeze resistant stock water tanks/fountains is a cost-effective measure in heating zones 2 and 3.

Electric resistance stock tank heater(s) must be removed or permanently disabled. Tanks and installations must meet the RTF specifications for Freeze Resistant Stock Tanks/Fountains, available in the PTR.

Documentation Requirements (If any specifically required)

See the general documentation requirements in section 4.1.3.

Reimbursement Levels and Strategies

BPA will credit/reimburse $165 for installation of a freeze resistant stock tank/fountain in heating zone 2 and $225 for installation of a freeze resistant stock tank/fountain in heating zone 3. It is not cost effective in heating zone 1, so BPA will provide no credit/reimbursement.

Motors

Requirements and Specifications

- Motor replacements are assumed to be in lieu of rewinding the motor or at the time of failure.
- Incremental project costs and incremental savings are calculated as the difference between the National Electrical Manufactures Association (NEMA) standard efficiency motor and the proposed motor for the same size and application.
- Credit/reimbursement for irrigation motor measures requires that the motor is open drip proof (ODP) or totally enclosed fan cooled (TEFC), operates at 1,800 rpm, and is replacing an older rewound motor.
- Motor measures under this section must be installed in an irrigated or agricultural application in the customer's service area. The motors may be purchased anywhere.
- Motor measures under this section must be new, three-phase AC induction, 5 to 500 horsepower, and NEMA design A, B, or C.
- Motor measures under this section must meet or exceed the NEMA Premium efficiency standard shown in table A-2 or table A-3 (below in Reimbursement Levels and Strategies).
- Irrigation motor rebates require that the motor is open drip proof (ODP) or totally enclosed fan cooled (TEFC), operates at 1,800 rpm, and is replacing older or rewound motors. Other types of motors will need to be submitted as custom proposals.

Documentation Requirements (If any specifically required)

Documentation for motor rebate claims must include: equipment invoices, a spec sheet or model number of installed equipment, and a

unique ID number or other field location identifying the site of the installed measure(s)

Reimbursement Levels and Strategies

- Pump/motor improvements in the irrigation sector are based on system audits and interactive measure calculations. The reimbursement level is $0.15 per kWh or 70 percent of project costs. WISA (Waterwise Irrigation Schedule, Ag 123, or its technical equivalent is available in the PTR).
- Motor replacements are assumed to be in lieu of re-winds or at time of failure. The incremental cost (and savings) is calculated off a National Electrical Manufacturers Association (NEMA) standard efficiency motor for the same size and application. They are Total Resource Cost (TRC) cost-effective because of the summer peaking load shapes in irrigated agriculture. The credits/reimbursements are found in table A-2.

Table A-2: Credits/Reimbursements for Irrigation System Motors

Measure Description HP	Motor Efficiency	NEMA Premium Efficiency	Rebate Per Unit	Estimated Savings Per Unit (kWh/yr.)
5 horsepower	83.0%	89.5%	$55	352
7.5 horsepower	84.0%	91.0%	$85	569
10 horsepower	85.0%	91.7%	$110	726
15 horsepower	87.3%	92.4%	$125	829
20 horsepower	88.0%	93.0%	$165	1,084
25 horsepower	88.0%	93.6%	$300	1,518
30 horsepower	88.8%	94.1%	$340	2,290
40 horsepower	89.3%	94.1%	$450	3,053
50 horsepower	89.3%	95.0%	$595	4,134
60 horsepower	89.5%	95.0%	$700	5,247
75 horsepower	89.5%	95.0%	$985	6,559
100 horsepower	90.0%	95.4%	$1,290	8,586
125 horsepower	90.3%	95.4%	$1,520	10,137
150 horsepower	90.8%	95.8%	$1,790	11,926
200 horsepower	91.0%	95.8%	$2.290	15,265
250 horsepower	91.0%	95.8%	$2,860	19,081
300 horsepower	91.0%	95.8%	$3,440	22,897
350 horsepower	91.0%	95.8%	$4,010	26,713
400 horsepower	91.0%	96.2%	$4,100	27,349
450 horsepower	91.0%	96.2%	$5,050	33,630
500 horsepower	91.0%	96.2%	$5,600	37,367

Table A-3: Credits/Reimbursements for Medium Voltage Irrigation System Motors (600v to 5,000v)

Measure Description (HP)	NEMA Premium Efficiency	Rebate Per Unit	Estimated Savings Per Unit (kWh/yr.)
250 horsepower	95.0%	$2,385	15,901
300 horsepower	95.0%	$2,862	19,081
350 horsepower	95.0%	$3,339	22,261
400 horsepower	95.0%	$3,339	22,261
450 horsepower	95.0%	$3,757	25,044
500 horsepower	95.0%	$4,174	27,826

New Construction Lighting

BPA will reimburse a fraction of the cost of new high-efficiency lighting measures in new agricultural construction (see specifics in Commercial Lighting in section 6).

Other Agricultural Measures

Requirements and Specifications

These measures must be submitted as Custom Projects (CPs).

Documentation Requirements (If any specifically required)

See the general documentation requirements in section 4.1.3.

Reimbursement Levels and Strategies

For other agricultural measures, BPA will credit/reimburse 15 cents/kWh or 70 percent, whichever is less, including the following, but not limited to:

- Low pressure conversion with pump work
  - Change to 40 foot spacing on hand lines and wheel lines to enable conversion
- Low energy precision application (LEPA) conversion for pivots and lateral moves
- Adjustable speed drives in certain applications (multiple-valved sprinkler systems and field elevation differences of 25 feet or greater)

The cost of the technical studies needed to accomplish the project is assumed to be covered in the BPA credit/reimbursement amount to the customer and in the total project cost for purposes of cost-capping. As with industrial projects, custom irrigation projects need to be run through the RTF calculator to determine TRC cost-effectiveness prior to submitting the M&V plan for approval by BPA.

Other non-building energy efficiency improvements can be credited/reimbursed at the rate of $0.13/kWh, up to 70 percent of the incremental project cost (see the "Other" measures category in the PTR).

Note: As described elsewhere in this document, utilities must submit an M&V plan for CPs to BPA for approval prior to any project implementation activity such as equipment purchase. Also, projects with credit/reimbursement levels $30,000 and above will require "Review and Comment" by BPA prior to any project implementation activity.

Scientific Irrigation Scheduling

Requirements and Specifications

BPA will provide credits or reimbursements to customers for Scientific Irrigation Scheduling (SIS). SIS projects must be submitted as CPs; a standardized M&V plan is available on the PTR Web site (i.e., SIS calculator).

SIS requires weekly hydro application data collection which includes all water applied, evapotranspiration needs and soil moisture tables. This measure only applies to agricultural systems for which there is pumping capacity above that needed to meet the normal needs of the crops.

A completion report, using the standard completion report tools, is required for the first year and is based on a field-by-field analysis using the standardized M&V algorithm. Subsequent yearly reporting will use a supplemental calculation template for measure claims to be based on the first year completion report.

Documentation Requirements (If any specifically required)

See the general documentation requirements in section 4.1.3.

Reimbursement Levels and Strategies

BPA will credit/reimburse the lesser of 15 cents/kWh or 70 percent of the SIS project cost of $25.50[7] per acre, for a three-year measure life, on a field-by-field basis.

Customer programs are unlikely to have the same crops, fields, farmers, or weather in each year. Therefore, the total reimbursement is based on the average annual energy savings over the three years of the contractual measure life, as opposed to a physical measure life.

Annual and biannual reporting: In each year, SIS CPs can be credited/reimbursed for one-third of the credit/reimbursement total (the lesser of $0.05/year/kWh or 70 percent of $8.50/acre/year). First year savings will be based on actual savings. Subsequent reports calculate an adjustment to the first year figure using an average of the current and previous years.

[7] The RTF determined that SIS is cost-effective with a TRC cost of $13.50/acre first-year cost with a $7.50/acre initial cost and $6/acre service cost, and $6.00 an acre for each of the next two years; and expected savings range from 80 kWh/acre - 125 kWh/acre, depending on the crop type, soil, climate and pumping lift. BPA has deemed the project costs at $25.50 per acre.

True-up: Across three years, the total payment is based on the average of annual savings; therefore, true-ups may be required at the end of the third year. True-up can take a few forms:

- If BPA has under-paid on reimbursements, the utility may claim a "true-up adjustment" at the end of the contract life and additional funds can be credited/reimbursed.
- If BPA has over-paid on reimbursements, then the utility can implement some SIS savings in a fourth year to increase the three year average of savings or by taking a negative report for credit on the CRC report, or by repaying CAA funds to BPA.

Transformer De-energization

Requirements and Specifications

BPA will provide credits or reimbursements to customers for Transformer De-energization (TRX) in agricultural applications. TRX projects must be submitted as CPs; a standardized M&V plan is available on the PTR Web site.

TRX is defined as disconnecting a transformer from downstream load sources during extended periods of agricultural inactivity and reconnecting prior to the irrigation season startup. This measure applies to systems for which the transformers serve only an agricultural load and where the customer does not currently incorporate this practice. Upon request, the customer will provide documentation showing the number of transformers de-energized, length of outage period, and the energy savings associated with each unit.

A completion report, using standard completion report tools, is required for the first year. Subsequent yearly reporting will use a supplemental calculation template for measure claims to be based on the first year completion report.

Documentation Requirements (If any specifically required)

See the general documentation requirements in section 4.1.3.

Reimbursement Levels and Strategies

BPA will credit/reimburse the lesser of 15 cents/kWh or 70 percent of the incremental cost of performing the project for a three-year measure life.

TRX may not have the same fields or length of outage in each year. Therefore, the total reimbursement is based on the average annual energy savings over the three years of the contractual measure life, as opposed to a physical measure life.

Annual and biannual reporting: In each year, TRX CPs can be credited/reimbursed for one-third of the credit/reimbursement total (calculated at the lesser of $0.05/year/kWh or 70 percent of incremental cost of performing the project). First year reported savings will be based on actual savings. Subsequent reports calculate an adjustment to the

first year figure using an average of the current and previous years or the lowest savings, if specified in an existing TRX contract.

True-up: Across three years, the total payment is based on the average of annual savings; therefore, true-up may be required at the end of the third year. True-up can take a few forms:

- If BPA has under-paid on reimbursements, the utility may claim a "true-up adjustment" at the end of the contract life and additional funds can be credited/reimbursed.
- If BPA has over-paid on reimbursements, then the utility can implement some TRX savings in a fourth year to increase the three year average of savings, take a negative report for credit on the CRC report, or by repaying CAA funds to BPA.

Variable Frequency Drives on Small Milking Machines in Dairies and Other Approved Applications

Requirements and Specifications

VFDs will be considered in other agricultural applications through the CP process. For larger-sized machines (more than 10 hp), a CP with M&V is required.

Documentation Requirements (If any specifically required)

Specific documentation requirements apply. For Variable Frequency Drives (VFDs) less than 10 hp (deemed), the customer must have an invoice showing horse power and an installation address. For those greater than 10 hp (CPs), CP documentation requirements must be followed.

Reimbursement Levels and Strategies

BPA will credit/reimburse $2,200 for verified installations of VFDs on milking machines of 10 hp or less.

6. Commercial Sector

BPA Commercial Sector Lead: Tim Scanlon

This section contains general information about the Commercial Sector and measure-specific information, including a description of the measures and any related changes, technical specifications (some specifications may be located in the PTR), credit/reimbursement levels and associated tables and any documentation requirements.

Measures

General Commercial Sector Information 48
Commercial Food Service Reach-in Refrigeration 48
Commercial New Construction..... 49
1. Energy Smart Design™ – Office..... 49
ENERGY STAR Commercial Clothes Washers..... 51
80+ Efficient Power Supplies..... 51
Existing Small Office or Retail (<5,000 sq. ft.) Insulation 51
Grocery Stores..... 52
Network Computer Power Management 52
Pre-rinse Spray Wash valves 53
Combined and Interactive Commercial Projects 53
Lighting 54
1. Commercial and Industrial Lighting (Existing)..... 54
2. New Commercial/Industrial/Agricultural Construction Lighting 55
New Commercial Construction, Major Renovation and Residential Multifamily Higher than Three Stories 57
Other 57

Commercial Sector Definition

An energy-consuming sector that consists of service-providing facilities and equipment of businesses; federal, state, and local governments, and other private and public organizations.

The commercial sector is generally defined as non-manufacturing business establishments, including hotels, motels, restaurants, wholesale businesses, retail stores, and health, social, and educational institutions.

General Commercial Sector

Lighting, HVAC, and commercial refrigeration dominate the savings opportunities in commercial buildings. Efficient power supplies for computers and power controls for networked computers also represent other savings opportunities.

Commercial/Industrial projects with less than a 1-year simple payback, based on the estimated energy savings and the estimated project costs do not qualify for credit/reimbursement.

All new construction/major renovation projects in the commercial/industrial sectors as well as industrial motor and drive applications must be submitted as CPs.

The overall structure for the commercial sector credit/reimbursement is:

- BPA will pay specified reimbursements for selected measures (deemed measures) (e.g., Commercial/Industrial (C/I) Lighting for stand-alone lighting, computer controls, etc.)
- BPA will pay a credit/reimbursement of 13 cents/kWh up to 70 percent of the project incremental cost for HVAC, commercial refrigeration, and interacting lighting

Specific measure requirements (if any) and reimbursement strategies are listed below.

Commercial Food Service Reach-in Refrigeration (solid and glass door)

Requirements and Specifications

Information on qualifying units is listed at the following link to the Consortium for Energy Efficiency (CEE): http://www.cee1.org/com/com-kit/com-kit-main.php3#qp

Documentation Requirements (If any specifically required)

See the general documentation requirements in section 4.1.3.

Reimbursement Strategies and Levels

Deemed credits/reimbursements based on CEE, Tier 2 Commercial Food Service Refrigerators and Freezers as shown in table C-1 and table C-2.

Table C-1: Refrigerator Credit/Reimbursement

Size (cu. ft.)	# of Qualifying CEE Tier 2 Units	Credit/ Reimbursement
0-30	36	$100
30-60	8	$150
60-90	10	$200

Table C-2: Freezer Credit/Reimbursement

Size (cu. ft.)	# of Qualifying CEE Tier 2 units	Credit/ Reimbursement
0-30	12	$200
30-60	19	$400
60-90	16	$700

Notes: Size is interior volume of the new equipment as listed by CEE. No credit/reimbursement for Tier 1, which is baseline practice.

Commercial New Construction

Energy Smart Design™ – Office

Requirements and Specifications

Eligible buildings are one of the following:

- A new office building
- An office addition to an existing building
- A major office renovation, requiring changes in multiple end-uses, or where a permit is required

The building must use one or more of the following HVAC system types for at least 70 percent of the conditioned space:

- Roof-top variable-air-volume (VAV) with electric reheat
- Roof-top VAV with a non-electric reheat
- Packaged heat pump
- Single zone equipment with gas furnace

The building must:

- Be three stories or less
- Be 100,000 square feet or less of conditioned area
- Have 30 percent or less window to wall area ratio
- Be built after October 1, 2007

The Energy Smart Design™ – Office Prescriptive Package is posted on the EE Web site at: http://www.bpa.gov/Energy/N/projects/ESD. Technical specifications are available in the PTR.

All of the items in table C-3 must be included in the new office building to qualify for an incentive. Code takes precedence if it exceeds any of these components.

Documentation Requirements (If any specifically required)

Required documentation includes those items indicated in the table below, and a letter from a professional familiar with the project. Professionals can be a qualified utility representative, a registered architect, licensed engineer or commissioning agent. The letter must certify that all of the required items were installed and commissioned as specified.

Table C-3: Credit/Reimbursement for Energy Smart Design™ - Office

Description	Requirements (Documentation)
Cooling system minimum efficiency level	CEE Tier 2 Specifications can be found at http://www.cee1.org/com/hecac/hecac-main.php3 *(Cut sheet indicating EER/SEER or IPLV ratings meeting CEE Tier 2)*
Effective window U-value	Fixed 0.35 Maximum Curtain wall 0.40 Maximum *(National Fenestration Rating Council (NFRC) rating or default U-value)*
Window solar heat gain coefficient	0.30 Maximum or Code *(cut sheet)*
Enhanced economizer, including dedicated thermostat stage, differential changeover with dry-bulb sensors, and low ambient outside air compressor lock-out	Required *(commissioning report summary)*
Integrated design of HVAC system, including fan power and plug load reduction	Required *(BPA supplied checklist)*
Lighting Budget (whole building)	0.75 Watts/SF Maximum, while providing illuminance levels as recommended by IESNA *(copy of code lighting budget form required for permit)*
Lighting Controls	Occupancy Sensors - install where lighting loads are over 100 watts and sensors are not required by code; emergency fixtures are exempt. *(commissioning report summary)*

Reimbursement Strategies and Levels

BPA will credit/reimburse $0.50 per square foot of conditioned areas for eligible new, small office buildings that meet the requirements of the Energy Smart Design™ – Office Prescriptive Package.

ENERGY STAR Commercial Clothes Washers

Requirements and Specifications

If the clothes washer is on the ENERGY STAR commercial list, it can be claimed as a commercial measure; if the clothes washer is on the ENERGY STAR residential list, it can be claimed as a residential measure.

Documentation Requirements (If any specifically required)

See the general documentation requirements in section 4.1.3.

Reimbursement Strategies and Levels

BPA offers credit/reimbursement for ENERGY STAR commercial clothes washers as shown in table C-4.

Table C-4: Credit/Reimbursement for ENERGY STAR Commercial Clothes Washers

ENERGY STAR	▪ All electric ▪ All other combinations	▪ $180 ▪ $ 75

80+ Efficient Power Supplies

Requirements and Specifications

This measure is currently handled through the Northwest Energy Efficiency Alliance (NEEA) to get computer hardware manufacturers on board.

Documentation Requirements (If any specifically required)

See the general documentation requirements in section 4.1.3.

Reimbursement Strategies and Levels

It may be necessary for local utilities to support the manufacturers' buy down once the initial NEEA funds are expended, probably through contributions to NEEA at around $5 per computer. This measure lends itself more to the CRC than to CAA, but it is one way to acquire cost-effective resources with little administrative burden.

Existing Small Office or Retail (<5,000 sq. ft.) Insulation

Requirements and Specifications

Deemed energy savings for attic, wall, and floor insulation measures are available for existing small buildings (<5,000 sq. ft.) used for office or retail activities.

Documentation Requirements (If any specifically required)

See the general documentation requirements in section 4.1.3.

Reimbursement Strategies and Levels

BPA will credit/reimburse on a per square foot basis at $0.13/deemed kWh energy savings.

Grocery Stores

Requirements and Specifications

Measures installed for credit under the Grocery Program are qualifying measures and expenditures for purposes of administrative allowance because the customer is still responsible for verification of the installation of the measures as they are for other credited/reimbursed measures. These measures are subject to the customer oversight and records requirements in section 4.1.

Documentation Requirements (If any specifically required)

In claiming a grocery store measure, the following must be maintained as documentation for the measure(s) claimed:

- Copy of budget authorization(s) provided to PECI
- Copy of audit (if audited)
- Invoices for equipment installed in the facility
- Documentation, by facility, that installed measures meet specifications (e.g. sq. ft. of insulation, r-value, etc.)
- Copy of rebate form

Reimbursement Strategies and Levels

BPA will credit/reimburse on a dollar-for-dollar basis measures implemented and documented under a pre-approved third party contract. The dollar-for-dollar credit/reimbursement will be documented based on the rebate form provided by an approved third party contractor. The approved third party contractor will input the details of the accomplished measures into the PTR System for the customer or BPA if utilities have a signed letter of agreement to participate in the Grocery Program.

Network Computer Power Management

Requirements and Specifications

To receive credit for this measure, the control must be provided by Verdiem's Surveyor™ software or equivalent (Cost and savings are per computer controlled).

Documentation Requirements (If any specifically required)

See the general documentation requirements in section 4.1.3.

Reimbursement Strategies and Levels

BPA will credit/reimburse $17 per workstation.

Pre-rinse Spray Wash valves

Requirements and Specifications

Qualified installations require that the water for dishwashing be heated with electricity and that the facility serves 10 or more meal shifts per week (for example, a facility that serves lunches and dinners, five days a week), or that the customer document the reason for exceptions to the 10-meal rule. The exceptions should indicate that there is an equivalent amount of usage of the rinse system as with 10 meals (e.g., commercial bakeries or central school district cafeterias that prepare thousands of hot meals or catering facilities that may only be used for three parties a week but provide meals for hundreds of people at a time).

Documentation Requirements (If any specifically required)

See the general documentation requirements in section 4.1.3.

Reimbursement Strategies and Levels

BPA will credit/reimburse $150 per qualified installation.

Combined and Interactive Commercial Projects

Requirements and Specifications

These measures must be submitted as CPs. As described earlier in this document, for CPs, utilities must submit an M&V plan for BPA approval prior to any project implementation activity such as equipment purchase. Also, projects with credit/reimbursement levels $30,000 and above will require "Review and Comment" by BPA prior to any project implementation activity.

Documentation Requirements (If any specifically required)

See the general documentation requirements in section 4.1.3.

Reimbursement Strategies and Levels

Combined and/or interactive commercial projects that include lighting, commercial scale refrigeration, and HVAC measures, among other cost-effective measures that are calculated, will be credited/reimbursed at $0.13/kWh, not to exceed 70 percent of the incremental installed measure cost. The incremental cost for retrofit of existing equipment is the full installed measure cost. For replacement of burned out/failing/failed equipment, the incremental cost (and savings) is the cost above code or its equivalent. For example, for HVAC replacement, the incremental cost is the cost of equipment above the federal or state applicable standard for new or replacement equipment.

Lighting

1. Commercial and Industrial Lighting (Existing)

Requirements and Specifications

Industrial and commercial lighting measures are considered deemed, except when they have interactive effects on other measures, in which case they may be submitted as a CP under the multiple measures category. One exception is that for industrial lighting measures that are estimated to provide more than 100,000 kWh in annual savings, the customer has an option of using the CP approach, recognizing that there is significantly more effort involved to make a CPP, complete with an M&V plan and the need for a completion report.

Documentation Requirements (If any specifically required)

The following must be submitted to BPA for each invoice or report:

- Wattage Reduction Sheet showing actual equipment installed
- Cut sheets for high performance equipment

The following must be retained in the files for each sub-project:

- Wattage Reduction Sheet
- Cut sheets for high performance equipment
- Equipment purchase orders/invoices
- Sub-contractor invoices
- Sub-project estimates and/or other related sub-project documents
- PCB ballast disposal (must meet environmental requirements)

The following must be in the files after completing the inspection:

- Wattage Reduction Sheet showing validated counts and proper listing and labeling of equipment installed
- Corrected/completed Wattage Reduction Sheet
- Field notes from inspection (recommended)

Reimbursement Strategies and Levels

- The Commercial/Industrial Lighting (C/IL) measure list credit/reimbursement schedule and requirements must be used for lighting-only projects in any size commercial, industrial, agricultural, or institutional facility. The list is available on the PTR System under Downloads - "Commercial/Industrial Lighting." Commercial and Industrial Lighting credits/reimbursements must use the C&IL Spreadsheet Tool that is available on the PTR System under Downloads. Credit/reimbursement is based on the Standard Offer schedule which is also available on the PTR System. (The measure

number is CLI00612, and the latest version of this calculator should be used to claim credit/reimbursement, which is automatically calculated by the tool).

- If there is a measure not found on the list of C&IL measures for which the customer would like to have a deemed credit/reimbursement, the customer may request a one-time approval from BPA to use a deemed measure and credit.
- If the measure does not qualify for a deemed credit/reimbursement after a review, then the customer can submit a custom proposal, or seek to have a deemed value established through the RTF.

Credits for some measures in the C/IL list may change over time to reflect market conditions.

2. New Commercial/Industrial/Agricultural Construction Lighting

Requirements and Specifications

The C/IL measure list credit/reimbursement schedule and requirements must be used for lighting-only projects in any size commercial, industrial, agricultural, or institutional facility. The list is available on the PTR System under Downloads - "Commercial & Industrial Lighting." C/IL credits/reimbursements must use the C/IL Spreadsheet Tool that is available on the PTR System under Downloads. Credit/reimbursement is based on the Standard Offer schedule which is also available on the PTR System. (The measure number is CLI00001, and the latest version of this calculator should be used to claim credit/reimbursement, which is automatically calculated by the tool).

Documentation Requirements (If any specifically required)

See the general documentation requirements in section 4.1.3.

Reimbursement Strategies and Levels

BPA will reimburse a fraction of the cost of new high-efficiency lighting measures in new C/I construction. Table C-5 indicates the inaugural list of measures and the credits/reimbursements available from BPA. The list may be supplemented with qualifying new measures. Check the PTR for the latest measures.

Table C-5: Credit/Reimbursement Commercial/Industrial New Construction Lighting Program*

NW Public Power Customer
Program Offer of Incentive Levels

Code	New Fixture/Sensor Description	Incentive Per Unit**
	High Performance T8 Fluorescent Lamps and Electronic Ballast in a New Fixture	
	The fixture shall include a high performance 48" T8 lamp and ballast system listed on the CEE qualifying products list. Refer to this link: http://www.cee1.org/com/com-lt/com-lt-prod.pdf	
1	Upgrade any fluorescent fixture to high performance	$10
	High Bay T8 or T5 Fluorescent Fixture	
	T5 fixture must have 3 or more lamps, T8 fixture must have 4 or more lamps. Fixture must be installed in a high bay area with a minimum ceiling height of 15'.	
1	T8 or T5 New "High Bay" Fixture	$50
	Sensor or Timer Control of Fluorescent	
	Sensors required by code are not eligible.	
1	Controls a minimum of 120 Watt connected load.	$30
	Stairwell Fluorescent Fixture	
	Fixture must be specifically designed for stairwell lighting.	
1	Bi-level fixture with occupancy sensor control	$50
	Ceramic Metal Halide (hard-wired)	
	Hard-wired new recessed can or track heads (cans). Incentive is per lamp, i.e., per track head.	
1	20 to 100 Watts (Nominal Lamp Watts)	$40
2	101 to 400 Watts (Nominal Lamp Watts)	$50

* Applies to lighting systems in commercial, industrial, and agricultural new construction facilities. For instance, all commercial and industrial facilities, plus wineries, potato storage sheds, pump houses, office space, and other on-farm facilities.

** More than one measure can be claimed per fixture. For example: a high bay T8 fixture could receive a high-performance, high-bay and sensor incentive for each fixture.

New Commercial Construction, Major Renovation and Residential Multifamily Higher than Three Stories

Requirements and Specifications

These measures must be submitted as Custom Projects

Documentation Requirements (If any specifically required)

See the general documentation requirements in section 4.1.3.

Reimbursement Strategies and Levels

New construction and major renovations (multiple end-uses changed with a construction or building permit required) will be reimbursed on a performance-based approach that credits/reimburses the lesser of $0.20/kWh or 70 percent of incremental cost (which includes payments for design assistance/technical assistance) for improved efficiency above code. The key to project eligibility for the higher "new construction" reimbursement is the existence of an implementation design plan that usually involves modeling and a building construction permit. These projects are partly self-defining because the projects must be submitted to BPA for pre-approval. The higher reimbursement values are provided to allow the utility to bring the extra modeling and design resources to bear.

Cost-effective geothermal heat pumps for all MF and commercial new construction applications (including residential MF less than three stories) will be reimbursed according to the commercial sector reimbursement schedule as a CP.

Other

Requirements and Specifications

These measures must be submitted as Custom Projects

Documentation Requirements (If any specifically required)

See the general documentation requirements in section 4.1.3.

Reimbursement Strategies and Levels

LED traffic signals and other non-building energy efficiency improvements can be credited/reimbursed at the rate of $0.13/kWh, up to 70 percent of the incremental project cost (see the "Other" measures category in the PTR).

7. Industrial Sector

BPA Industrial Sector Lead: Jennifer Eskil

This section contains general information about the Industrial Sector and measure-specific information, including a description of the measures and any related changes, technical specifications (some specifications may be located in the PTR), credit/reimbursement levels and associated tables and any documentation requirements.

Measures

Process Related Projects 60
Conservation Voltage Regulation 60
Distribution System Efficiency Improvements 60
Lighting 62
Motor and Drive Applications.....63
New Construction Lighting 63
New Industrial Construction 63
Other 65

Industrial Sector Definition

An inclusive term for any fixed equipment, building, or complex for the production of goods in connection with, or as part of, any process or system, and, in general, within which the majority of energy use is not devoted to HVAC or to meet the potable hot water energy load requirements of a facility.

Also included are electric distribution systems, conservation voltage regulation (CVR), and water/waste-water systems.

Any storage, processing (transportation), or other activities involving farm products off the farm is considered industrial food processing.

Industrial Sector

Process Related Projects

Industrial process-related projects include production systems within a particular industry (e.g., pulping in wood products, food processing, plastic extrusion, compressed air, computer chip fabrication, drive systems, drying systems in lumber products, or water and waste water treatment). Process-related projects will involve site-specific calculations (e.g., motors, variable speed drives, pumps, ammonia-based refrigeration, etc.) and will be eligible for credit/reimbursement as part of an integrated approach.

Commercial/industrial projects with less than a 1-year simple payback, based on the estimated energy savings and the estimated project costs do not qualify for credit/reimbursement.

In most cases CRC and CAA projects have the same requirements within the Industrial Sector, however, stranded cost repayment provisions are required for CAA, but not for CRC. Additionally, not all projects qualify under the CRC or CAA - all new construction/major renovation projects in the commercial/ industrial sectors must be submitted as Custom Project Proposals (CPPs).

There are few specific measures in the Industrial Sector. Instead, most CRC and CAA projects follow the requirements and specifications known as either Option 1 or Option 2, which are discussed after the measures below.

Conservation Voltage Regulation

Requirements and Specifications

Conservation Voltage Regulation (CVR) includes distribution level and customer level (e.g., house, business) voltage regulation.

CVR projects must be submitted as CPPs. All CPs for which reimbursement is based on verified savings require BPA approval of an M&V plan. Standardized M&V protocols will be provided for some measures prior to any project implementation.

Documentation Requirements (If any specifically required)

See the general documentation requirements in section 4.1.3.

Reimbursement Strategies and Levels

The credit/reimbursement amounts are determined by the industrial program Option 1 or Option 2.

Distribution System Efficiency Improvements

Requirements and Specifications

DSEI may include, among others, the following measures when cost-effective and otherwise qualifying:

- Power transformer replacement
- Service conductor replacement
- Insulator additions and replacement
- Higher distribution primary voltage
- Transformer load management (replacement of improperly sized transformers for loss improvements)
- Balancing loads and phases
- Adding parallel feeders
- Operation improvement (recognition and phase balancing)
- De-energizing seasonally unloaded transformers
- Service distribution transformer
    - Replacing an existing or proposed transformer with a higher efficiency transformer
    - Multiple transformers vs. single transformer based on system analysis
- Power factor improvement (measure to improve power factor and reduce line losses)
    - VAR management
    - Voltage management
    - Fixed and switched capacitors

DSEI projects must be submitted as CPPs. All CPs for which reimbursement is based on verified savings require BPA approval of an M&V plan. Standardized M&V protocols will be provided for some measures prior to any project implementation. DSEI projects must be submitted to BPA for approval prior to any project implementation activity such as equipment purchases.

Documentation Requirements (If any specifically required)

See the general documentation requirements in section 4.1.3.

Reimbursement Strategies and Levels

The credit/reimbursement amounts are determined by the industrial program Option 1 or Option 2.

Lighting

Requirements and Specifications

C/IL measures are considered deemed, except when they have interactive effects on other measures, in which case they may be submitted as a CP under the multiple measures category. For industrial lighting measures that are estimated to provide more than 100,000 kWh in annual savings, the customer has the option of using the CP approach, recognizing that there is significantly more effort involved to make a CPP, complete with an M&V plan, and the need for a completion report.

Documentation Requirements (If any specifically required)

The following documentation is required on each invoice or report:

- Wattage Reduction Sheet showing actual equipment installed
- Cut sheets for high performance equipment

The following must be retained in the files for each sub-project:

- Wattage Reduction Sheet
- Cut sheets for high performance equipment
- Equipment purchase orders/invoices
- Sub-contractor invoices
- Sub-project estimates and/or other related sub-project documents
- PCB ballast disposal (must meet environmental requirements)

The following must be in the files after completing the inspection:

- Wattage Reduction sheet showing validated counts and proper listing and labeling of equipment installed
- Corrected/completed Wattage Reduction Sheet
- Field notes from inspection (recommended)

Reimbursement Strategies and Levels

Commercial/Industrial Lighting (C/IL) credits/reimbursements must use the C&IL Spreadsheet Tool that is available on the PTR System under Downloads. Credit/reimbursement is based on the Standard Offer schedule which is also available on the PTR System. (The measure number is CLI00612, and the latest version of this calculator should be used to claim credit/reimbursement, which is automatically calculated by the tool.)

Motor and Drive Applications

Requirements and Specifications

Industrial motor and drive applications must be submitted as CPs.

Documentation Requirements (If any specifically required)

See the general documentation requirements in section 4.1.3.

Reimbursement Strategies and Levels

BPA no longer deems a credit/reimbursement level for motor programs based on deemed hours of operation and assumed loading factors. Motors and drives will be eligible for calculated savings based on site-specific CP analyses.

New Construction Lighting

Requirements and Specifications

See specifics in Commercial Lighting, section 6.

Documentation Requirements (If any specifically required)

See the general documentation requirements in section 4.1.3.

Reimbursement Strategies and Levels

BPA will reimburse a fraction of the cost of new high-efficiency lighting measures in new industrial construction.

New Industrial Construction

Requirements and Specifications

For those projects that qualify for the CRC or CAA, the customer must choose between the two options described below.

Documentation Requirements (If any specifically required)

See the general documentation requirements in section 4.1.3.

Reimbursement Strategies and Levels

New industrial construction/major renovations will be credited/reimbursed in accordance with either Option 1 or Option 2 described below. This does not include lighting measures available in the deemed Commercial and Industrial New Construction Lighting list available on the PTR System.

Options

For those projects that qualify for the CRC or CAA, the customer must choose between the two options noted below. These options are designed to allow a customer to seek BPA's technical assistance or to use its own means to address technical needs. The options were created with the understanding that some customers have their own technical support tools and other customers do not. These options level the

playing field and assure that costs and risks are evenly applied across the region.

The customer must make the decision of which option to use up front. The customer's option choice will apply to all projects.

Customers participating in the CRC or CAA may switch the industrial reimbursement level selected, provided they have not:

- Had any TSP audits paid for ($0.12 group) by BPA or
- Been paid or had CRC claims accepted by BPA for a custom industrial project at the $0.15 reimbursement level

Customers wishing to make this switch must send their request in writing to their EER.

Option 1 is designed to provide technical support for utilities that need such assistance and that do not wish to bear the risk of dry holes.

Option 2 is designed for utilities providing technical assistance on their own that are comfortable bearing the risk of dry holes. The credit/reimbursement is more for Option 2, but BPA does not provide these customers with any upstream technical project support.

Utilities that participated in a ConAug Technical Service Proposal (TSP) prior to the early start period of the CAA or CRC are required to claim credits/reimbursements at the Option 1 rate for any project in the TSP stream at that time. After signing a CAA or CRC agreement, the customer may choose the administrative credit/reimbursement level of either Option 1 or Option 2 for subsequent projects.

Requirements

Option 1

- The credit/reimbursement level for industrial projects is $0.12 per kWh (up to 70 percent of the incremental project cost).
- BPA will provide the customer with technical support services for which the customer is not required to reimburse BPA. Either BPA employees or a qualified BPA contractor may provide the technical services. BPA will determine and provide the best technical staff to meet the customer's need.
- The current TSP process applies. The TSP support for which BPA will cover costs includes: most upstream support for project development, including audits, scoping, CPP development, and measurement and verification (M&V) plan development. It does not include downstream support such as the implementation of M&V plans or completion reports. Downstream technical support may be included as part of project costs.
- Utilities may continue to call BPA's customer-dedicated engineer for assistance with their industrial customer loads.

OR

Option 2

- The credit/reimbursement level is $0.15 per kWh (up to 70 percent of the project's incremental project cost).
- BPA does not provide technical support for utilities under this option. BPA will not provide walk through audits, scoping, proposal development, or M&V plan development, and BPA will not provide contractors for such purposes. However, the TSP-qualified BPA contractor list is available for customer use.
- The cost of upstream technical project support, such as audits and technical studies can be included in the total project costs.
- BPA will review M&V plans for CPPs and make comments and recommendations on submitted CPPs as provided under the CP section.

Regardless of the choice of Option 1 or Option 2

- The customer must pre-screen the projects for TRC cost-effectiveness by using the RTF protocol-based calculator, supplying the cost, savings, and industry sector (to get the appropriate load shape) prior to submitting the M&V plan to BPA for approval.
- For all CPs, utilities must submit an M&V plan for BPA approval prior to any project implementation activity such as equipment purchase. Project paperwork shall include the basis for the savings estimates.
- In addition, projects with a BPA credit/reimbursement level of $30,000 or higher must be submitted to BPA, prior to any project implementation activity such as equipment purchase, for review and comment. However, the ultimate decision to proceed with the project will be up to the customer and its end-users.
- BPA encourages all utilities to use technical assistance from third party service providers and/or from the Industrial Sector Initiative of NEEA. Industrial savings can be hard to identify, and the industrial partners tend to trust trade allies with whom they traditionally work.

Other

Requirements and Specifications

These measures must be submitted as CPs (see the "Other" measures category in the PTR).

Documentation Requirements (If any specifically required)

See the general documentation requirements in section 4.1.3.

Reimbursement Strategies and Levels

Non-building energy efficiency improvements can be credited/reimbursed at the rate of $0.13/kWh, up to 70 percent of the incremental project cost.

8. Residential Sector

BPA Residential Sector Lead: Mark Johnson

This section contains general information about the Residential Sector and measure-specific information, including a description of the measures and any related changes, technical specifications (some specifications may be located in the PTR), credit/reimbursement levels and associated tables and any documentation requirements.

Measures

General Residential Sector 68
Appliances
- Clothes washers 68
- Dishwashers 68
- Freezers 68
- Gravity Film Heat Exchangers 68
- Refrigerators 68
- Residential Refrigerator and Freezer Decommissioning 69
- Water Heaters 69

Duct Sealing 69
- Duct Sealing in Existing Manufactured Homes 70
- Duct Sealing in Existing Single-Family Homes 70

Heat Pumps 71
- Air Source Heat Pump Upgrades 71
- Geothermal Heat Pump System Upgrades 68

Lighting 74
New Construction 75
- New ENERGY STAR Manufactured Homes 75
- New ENERGY STAR Site-Built Homes 76
- New Multifamily Construction 77

Other 79
Showerheads (2.0 gpm) 79
Showerheads (2.5 gpm) and Aerators for Multifamily 79
Thermostats 80
Weatherization 80
- Standard-Income Weatherization 81
- Low-Income Weatherization 81
- Low-Income Window Replacement 90

Residential Sector Definition

Any electric energy conservation measure that is used in a residential setting. This includes single family residences, multifamily residential structures (up to three stories high), and manufactured homes. Excluded are temporary residences such as hotels, motels, nursing homes, dorms, or any other generally temporary quarters. *(Multifamily housing above three stories is considered commercial.)*

General Residential Sector

The main cost-effective applications in the residential sector are: lighting, HVAC, weatherization, new construction and appliances. BPA customers want to stay active in this sector. Specific measure requirements (if any) and reimbursement strategies are listed below.

Appliances

Requirements and Specifications

The customer may obtain a copy of ENERGY STAR documentation or may elect to check the ENERGY STAR Web site to confirm the appliance meets ENERGY STAR requirements.

Documentation Requirements (If any specifically required)

The following must be maintained as part of the documentation for these measures:

- Manufacturer
- Model number
- Copy of purchase receipt/invoice
- Documentation detailing the specifications (e.g., energy factor) for the appliance claimed

A copy of the page from the ENERGY STAR Web site listing the appliance model is sufficient for documentation, provided it details the specifications for the model claimed.

Reimbursement Strategies and Levels

Clothes Washers: BPA will credit/reimburse two amounts for any ENERGY STAR-rated residential clothes washer depending on the fuel used to heat water. For installations in homes verified to use electricity to heat water, the reimbursement level will be $70; for installations in homes with gas or unverified water heater fuel type, the credit/reimbursement will be $25.

Dishwashers: BPA will credit/reimburse $25 per ENERGY STAR-rated dishwasher.

Freezers: BPA will credit/reimburse $12 per ENERGY STAR-rated full size (7.75 cu. ft. or greater) freezer.

Gravity Film Heat Exchangers: Cost-effective installations of gravity film heat exchangers in electric water heater applications are eligible measures, which may receive credits/reimbursement of $0.35 per kWh (according to the busbar savings in the PTR). Credits/ Reimbursements and busbar savings are listed in the PTR.

Refrigerators: BPA will credit/reimburse $25 per ENERGY STAR-rated full size (7.75 cu. ft. or greater) refrigerator.

Residential Refrigerator and Freezer Decommissioning: The existing refrigerator or freezer must be verified as functional, serving a home within the participating customer's service territory, and must have at least 14 cu. ft. capacity. The unit must be decommissioned and its components recycled. The ENERGY STAR Refrigerators measure (or ENERGY STAR Freezers, as appropriate) may be added to the Refrigerator Decommissioning measure. BPA will credit/reimburse $85 per decommissioned residential refrigerator or freezer unit. Decommissioning has a short measure life. Its expected high free-ridership is accounted for in the savings numbers. In recycling a refrigerator, the following documentation requirements apply:

- Address where the refrigerator was picked up from
- Disposal/recycling documents
- Cubic size of refrigerator

Water Heaters: BPA will provide credits/reimbursements of $0.25 per kWh for cost-effective energy-efficient electric water heater measures. BPA will pay $0.35/kWh for cost-effective water heater measures where the tank has a 20-year or longer warranty. Credits/reimbursements and busbar savings can be found in the PTR. The following documentation is required for water heaters:

- Manufacturer or brand name
- Model number
- Copy of purchase receipt/invoice
- Warranty period, if claiming higher 20 year warranty. Additionally, the customer should obtain from local vendors a list of manufacturers and model numbers that meet the warranty specifications and that are available in their store. The customer should compare manufacturer/model information from the end-user with the list before issuing reimbursement. Include a copy of the list in each file.
- Rated storage volume in gallons

Duct Sealing

Requirements and Specifications

The PTCS specifications are available in the PTR, under Downloads. PTCS forms are available at http://www.ptcsnw.com.

Documentation Requirements (If any specifically required)

In documenting duct sealing measures, a customer must have a copy of the signed Performance Tested Comfort System™ (PTCS) Duct Sealing certificate or a list of completions meeting program specifications from a BPA approved PTCS Service Provider, currently Ecos Consulting, and a vendor invoice.

Two duct sealing PTCS measures are described below.

1. Duct Sealing in Existing Manufactured Homes

Requirements and Specifications

The duct system must be certified as a PTCS Duct System. BPA will provide credit/reimbursement for retrofit PTCS duct sealing in existing electrically heated manufactured homes.*

This measure may not be claimed separately in conjunction with a heat pump upgrade.

Documentation Requirements (If any specifically required)

See the general documentation requirements in section 4.1.3.

Reimbursement Strategies and Levels

The BPA credit/reimbursement will be according to table R-1. Combining this measure with direct install lighting may increase the value of the visit to the home and allow a combined higher credit/reimbursement.

Table R-1: Credits/Reimbursements for PTCS Duct Sealing in Manufactured Homes (All climate zones)

HZ 1*	$280
HZ 2	$400
HZ 3	$400

** Retrofit PTCS Duct Sealing in Manufactured Homes is not a cost-effective measure in HZ 1, and, therefore, it is not eligible for credit/reimbursement in HZ 1.*

2. Duct Sealing in Existing Single-Family Homes (WTP)

Requirements and Specifications

In order to be eligible for the credit/reimbursement, the pre-existing duct leakage to the outside must be greater than 250 CFM50 or 15 percent of the floor area, whichever is less. The duct system must be certified as a PTCS Duct System.

This measure, as specified in the preceding paragraph, may be claimed in conjunction with a "Ducts Inside" heat pump upgrade; however, the measure may not be claimed in conjunction with a "Ducts Outside" heat pump upgrade or in new construction.

Documentation Requirements (If any specifically required)

See the general documentation requirements in section 4.1.3.

Reimbursement Strategies and Levels

Retrofit PTCS duct sealing as a stand-alone measure in existing electrically heated SF site-built homes will be credited/reimbursed at $500 for all climate zones.

Heat Pumps

Requirements and Specifications

BPA will accept claims for CRC credit or CAA invoices for reimbursement for the installation of electric heat pumps in residences. Measures may be claimed in periods following the end of the eligibility period, provided the documentation illustrates the measures were purchased and were in service (installed and operating) during the eligibility period. Claims will be accepted on the condition that:

- Such residences have had their heat pump installation certified under PTCS specifications. This includes PTCS certified duct systems (where applicable) and PTCS certified controls and commissioning. Homes where the duct system is inside the heated envelope of the home (i.e., heated basements) are not required to have the duct systems certified under the PTCS specifications as any heat loss is inside the heated envelope of the home.
- Either electric or non-electric auxiliary heat systems may be installed with the heat pump. However, BPA expects the electric heat pump will be the primary system used to meet the heating needs of the house.

Two types of heat pumps are described below: (1) air source and (2) geothermal.

Documentation Requirements (If any specifically required)

For both types of heat pumps, the following documents must be maintained for the measures claimed:

- Heat pump commissioning certificate or list from Ecos Consulting of installed heat pumps meeting program specifications
- ARI certificate or other documentation showing the efficiency ratings (HSPF and SEER for air-source heat pumps, or COP for geothermal heat pumps)
- Copy of the whole house heating and cooling load calculations
- Balance point worksheet
- Vendor invoices
- Duct sealing documentation (if duct sealing is required)

1. Air Source Heat Pumps

Requirements and Specifications

- The heat pump must be installed in accordance with the air source heat pump installation specifications, which are available in the PTR, under Downloads.
- Heat pumps must be installed to the latest version of the "PTCS Air Source Heat Pump Installation Standards," which is available on the PTR. Reminder: As a part of the PTCS installation standards, PTCS Commissioned Heat Pump certification is required on all heat pumps,

and PTCS Duct System certification may be required, depending on the location of the ductwork.

- Homes with heated floor area greater than 4,500 square feet, which is twice the size of the prototypes used by the RTF to estimate savings, are allowed to claim two heat pump measures. BPA requires the newly installed heat pump(s) to be the primary heating source for the entire house.
- Where a house has a substantial[8] amount of ductwork in unconditioned space, the Heat Pump with Ducts Outside[9] measure must be claimed. Where a house does not have a substantial amount of ductwork in unconditioned space, the Heat Pump with Ducts Inside measure must be claimed. PTCS Duct System Certification is required when the Heat Pump with Ducts Outside measure is claimed.

Documentation Requirements (If any specifically required)

See the general documentation requirements in section 4.1.3.

Reimbursement Strategies and Levels

- BPA set credits/reimbursements based on the incremental savings from a standard efficiency air-source heat pump (heat pump efficiency upgrade), regardless of the end-user's reasons for the installation of a heat pump and regardless of the pre-existing heating system type, if any.
- For site-built single-family homes, most heat pump measures were determined to be cost effective. The credit/reimbursement level varies depending on whether the ducts are outside of the conditioned space or whether there is no substantial ducting outside the conditioned space. See table R-2 for the credit/reimbursement schedule.

[8] BPA interprets "substantial" to mean ~ 75 percent or more of the ducts are outside the conditioned space.

[9] "Ducts Outside" and "Ducts Inside" are shorthand for homes with ducts outside the conditioned space where duct testing and sealing can result in higher savings gains, and homes without substantial ducting outside the conditioned space, respectively.

Table R-2: Credits/Reimbursements for Heat Pumps

Heating/Cooling Zone	Ducts Outside	Ducts Inside
h1 c1 *(except MH)	$915	$470
h1 c2 *(except MH)	$935	$480
h1 c3	$975	$500
h2 c1	$1,380	$650
h2 c2	$1,390	$665
h2 c3	$1,425	$685
h3 c1	$1,730	$780
h3 c2	$1,750	$790
h3 c3	$1,790	$815

***** BPA will not provide credit/reimbursement for heat pumps installed in manufactured homes in heating zone 1/cooling zone 1 or heating zone 1/cooling zone 2.

- Manufactured Homes: BPA will not provide credits/reimbursements for heat pumps installed in manufactured homes in heating zone 1/cooling zone 1 or heating zone 1/cooling zone 2, because the measure is not cost-effective. Heat pumps are cost effective in heating zones 2 and 3 and, on average, in heating zone 1/cooling zone 3.

  BPA will provide credits/reimbursements for heat pumps installed in manufactured homes as shown in table R-2. Manufactured homes are almost always built on vented crawlspaces, rather than sealed basements, which means the Ducts Outside measure applies.

2. New Geothermal Heat Pump Systems

Requirements and Specifications

The heat pump must be installed in accordance with the geothermal heat pump design and installation standards, which are available in the PTR, under Downloads.

Replacement of an existing geothermal heat pump unit does not qualify for BPA credit/reimbursement; all geothermal heat pump system components must be newly installed. Geothermal Heat Pump installations must adhere to the latest version of the "PTCS Ground Source Heat Pump Specifications," which are available in the PTR.

Documentation Requirements (If any specifically required)

See the general documentation requirements in section 4.1.3.

Reimbursement Strategies and Levels

BPA set credits/reimbursements based on the incremental savings from a standard air-source heat pump (upgrade to a geothermal system), regardless of the end-user's reasons for the installation of the geothermal heat pump system and regardless of the fuel used in the pre-existing heating system, if any.

SF installations in HZ 1: BPA will provide a melded credit/reimbursement of $2,400 for cost-effective geothermal heat pump installations that are identified in the PTR as cost-effective.

SF installations in HZ 2 and 3: BPA will offer a simplified reimbursement of $3,000 per unit.

Manufactured Homes: There are no deemed cost-effective geothermal heat pump measures in manufactured homes; thus, BPA will provide no deemed credit/reimbursement.

Multifamily*:* Cost-effective geothermal heat pumps for all MF applications (including commercial MF - greater than three stories) will be reimbursed according to the commercial sector reimbursement schedule as a CP.

Lighting

Requirements and Specifications

Each installed CFL must be ENERGY STAR-rated and wattage must be more than 5 Watts.

For hard-to-reach or special opportunity segments, customers must submit a request to BPA and have that request approved prior to the start of the activity in order to receive the higher reimbursement rate. Once approved, the hard-to-reach or special opportunity activity needs no further approval by BPA provided there is no change in the methodology deployed. Changes to the hard-to-reach or special opportunity segments must be approved by BPA prior to the start date of that activity.

Documentation Requirements (If any specifically required)

Documentation for CFLs reported through C/IL must adhere to the C/IL documentation requirements. The following is required for CFL measures claimed outside the C/IL:

- Vendor invoice to customer with the number of bulbs purchased, type of bulbs purchased (i.e., ENERGY STAR) and wattage
- The number of bulbs given out at each event (e.g., annual meeting, coupon program, etc.)
- Alternate method of distribution (e.g., high bill complaints, over-the-counter, etc.)

Reimbursement Strategies and Levels

BPA will reimburse the customer $2.50 per socket (screw-in or other) as the standard WTP. There are special situations for which BPA may be willing to pay more. BPA will reimburse $4 per socket for CPs to get CFLs into hard to reach (HTR) or special opportunity segments. Such CPs must be pre-approved by BPA and must include a justification for why the segment is HTR or is a special opportunity. BPA is open to most ways to deliver products to such segments. These proposals may include lighting with additional measures such as showerheads in multifamily rental units or combined with duct sealing in manufactured homes to avoid missing savings opportunities and to make efficient use of site visits. Other examples include installing CFLS in communities with language barriers, porch lighting initiatives, audit/install efforts, direct install efforts in small assisted living facilities, etc.

(Again, whether the customer chooses to pay more or less for a specific bulb, or to substitute fixtures, the BPA WTP to the customer remains the same).

New Construction

Requirements and Specifications

Reimbursements are available for (1) manufactured homes, (2) site-built homes and (3) multifamily construction.

Documentation Requirements (If any specifically required)

See the general documentation requirements in section 4.1.3.

Reimbursement Strategies and Levels

Described below each of the following three measures.

1. New ENERGY STAR Manufactured Homes

Requirements and Specifications

BPA will accept claims for CRC credit or CAA invoices for reimbursement for measures for energy efficiency upgrades to new electrically-heated manufactured homes only on the condition that these residences have been designed, constructed, and certified by the Northwest Energy Efficient Manufactured (NEEM) Homes program as ENERGY STAR.

Deemed measures eligible for adding to ENERGY STAR Manufactured Homes include: Air-Source Heat Pumps in heating zones 2 and 3 (but not in heating zone 1), fluorescent Lighting measures, ENERGY STAR Clothes Washers, ENERGY STAR Freezers and ENERGY STAR Refrigerators.

Documentation Requirements (If any specifically required)

Documentation for this measure requires an installation address and a copy of the Certificate of Compliance.

Reimbursement Strategies and Levels

Given the big increment in savings above HUD standards, electrically-heated ENERGY STAR manufactured homes (MH) are very cost-effective. BPA will provide a credit/reimbursement as shown in table R-3.

Table R-3: Credits/Reimbursements for ENERGY STAR Manufactured Homes

Heating Zone 1	$ 850
Heating Zone 2	$1,150
Heating Zone 3	$1,450

2. New ENERGY STAR Site-Built Homes

Requirements and Specifications

BPA will accept claims for CRC credit or CAA invoices for new electrically-heated homes certified to be in compliance with the ENERGY STAR Homes Northwest standards by the State Certifying Organization. Information regarding the ENERGY STAR Homes Northwest Program is available at http://www.northwestenergystar.com/.

Gas-heated ENERGY STAR homes are not TRC cost-effective, but credits/reimbursements for electric appliance and lighting may be claimed in gas heated homes.

Note: BPA will not accept CRC claims for credit or CAA invoices for homes built to "TCO #9 – hybrid gas unit heaters with electric resistance zonal heaters."

Deemed measures eligible for adding to an ENERGY STAR site-built home include: fluorescent lighting measures above what the ENERGY STAR homes measure requires, ENERGY STAR Clothes Washers, ENERGY STAR Refrigerators, ENERGY STAR Freezers, and cost-effective Gravity Film Heat Exchangers.

Documentation Requirements (If any specifically required)

In documenting this measure, the customer must possess a copy of the certification label provided by the State Certifying Organization (SCO) which includes the name of the certifier for each ENERGY STAR Home.

Reimbursement Strategies and Levels

New electrically heated ENERGY STAR Site-Built Homes are cost-effective in all climate zones with zonal electric heating or electric heat pumps. BPA will provide credits/reimbursement as shown in table R-4.

Table R-4: Zonal/Heat Pump Reimbursements for ENERGY STAR Site-Built Homes

	Ducts Outside[10]	Ducts Inside
Heating 1, Cooling 1 hp	$1,140	$ 600
h1 c2 heat pumps	$1,180	$ 600
h1 c3 heat pumps	$1,250	$ 600
All zonal $1,170		
h2 c1 heat pumps	$1,800	$ 850
h2 c2 heat pumps	$2,000	$ 850
h2 c3 heat pumps	$2,100	$ 850
All zonal $1,400		
h3 c1 Hp	$2,600	$1,020
h3 c2 Hp	$2,700	$1,020
h3 c3 Hp	$2,800	$1,020
All zonal $1,600		

3. New Multifamily Construction

Requirements and Specifications

Multifamily (MF) new construction of five or more units and three stories or less can be made more efficient than code or standard practice. Projects meeting the latest version of the RTF's "Multifamily New Construction Low Rise Technical Specifications" (available in the PTR System) will be reimbursed on a per unit basis as outlined in table R-5.

Deemed measures eligible for adding to MF homes include: fluorescent lighting measures, ENERGY STAR Clothes Washers, ENERGY STAR Refrigerators, ENERGY STAR Freezers, ENERGY STAR Dishwashers and cost-effective Gravity Film Heat Exchangers.

Projects not meeting the prescriptive specifications that qualify as being above code or standard practice efficiency must be reviewed and approved by BPA as CP. The amount and type of measurement and verification (M&V) required will be determined by the BPA reviewing engineer, but is not expected to be complex.

MF housing above three stories will be considered commercial construction and submitted for new construction incentives and BPA pre-approval under the commercial sector WTP.

[10] See footnote 9 for the meaning of these classifications.

Documentation Requirements (If any specifically required)

See the general documentation requirements in section 4.1.3.

Reimbursement Strategies and Levels

Table R-5: Credits/Reimbursements for MF New Construction

Heating Zone 1	$80 per unit
Heating Zone 2	$115 per unit
Heating Zone 3	$140 per unit

Table R-6 summarizes the required prescriptive path for compliance with the MF New Construction Low Rise Specifications.

Table R-6: MF New Construction Specifications – Summary [1]

Component		Zone 1 (<6,000 HDD)	Zone 2 (6,000-7,500 HDD)	Zone 3 (>7,500 HDD)
Ceilings [2]	Attic	R-38 Std.	R-38 Std.	R-38 Std.
	Vaults	R-30	R-30	R-30
Walls [2]	Above Grade	R-21, Inter.	R-21, Inter.	R-21, Inter.
	Below Grade Inter. w/R-5 thermal break [4]	R-21	R-21	R-21
Floors	Over Crawlspaces and Unheated Basements	R-30	R-30	R-30
	Slab-on-Grade Perimeter	R-15	R-15	R-15
Glazing [3]	Maximum NFRC rated U-value	U-0.30	U-0.30	U-0.30
Exterior Doors		U-0.19	U-0.19	U-0.19
Duct Insulation	Rigid	R-11	R-11	R-11
	Flexible	R-8	R-8	R-8
Water Heaters		***See Specification***		
Mechanical ventilation and pollutant source control in all climate zones.				

1 This table presents a summary of the requirements - the RTF's Multifamily New Construction Specifications shall be followed.
2 Inter. indicates intermediate framing techniques
3 An area weighted U-factor for windows which meets the component requirement of this table is acceptable.
4 A thermal break having a minimum value of R-5 is required between slab floors and all walls and footings.

Reimbursement Strategies and Levels

Consistent with MH and single-family (SF) homes, $0.30 per kWh will be the applicable reimbursement level (with a cap of 70 percent of the incremental energy related measure costs).

Other

Requirements and Specifications

Other non-building energy efficiency improvements must be submitted as Custom Projects.

Documentation Requirements (If any specifically required)

See the general documentation requirements in section 4.1.3.

Reimbursement Strategies and Levels

These measures can be credited/reimbursed at the rate of $0.13/kWh, up to 70 percent of the incremental project cost. (See the "Other" measures category in the PTR).

Showerheads (2.0 GPM)

Requirements and Specifications

This measure is available for all types of residential buildings (multifamily, single family, and manufactured homes). The hot water in the house must be heated by an electric water heater. Showerheads must adhere to the requirements stated in the PTR. Showerheads installed before June 1, 2007, are not eligible for credit/reimbursement.

Documentation Requirements (If any specifically required)

The customer must either show proof of end-user request of the showerhead, or directly install the showerhead.

Reimbursement Strategies and Levels

BPA will credit/reimburse the customer $12 per showerhead, with a limit of two showerheads per residence.

Showerheads (2.5 GPM) and Aerators for Multifamily

Requirements and Specifications

This measure is only available for multifamily residential buildings. The hot water in the house must be heated by an electric water heater. The pre-existing showerhead(s) must have a tested flow rate of at least 3.0 gallons per minute (gpm). The replacement showerhead(s) must have a tested flow rate of 2.5 gpm or less. Showerheads must be installed by utility staff or a utility contractor.

Documentation Requirements (If any specifically required)

See the general documentation requirements in section 4.1.3.

Reimbursement Strategies and Levels

BPA will credit/reimburse the customer $12 per MF living unit with electrically heated water if all showerheads and at least the kitchen faucet have low-flow showerheads and aerators installed.

Thermostats

Requirements and Specifications

All existing thermostats, except those in bathrooms, must be replaced with thermostats in accordance with the most recent version of the "Electronic Thermostat Specifications," which are available in the PTR.

Documentation Requirements (If any specifically required)

Line voltage electronic thermostats require the following documentation:

- Statement noting that all thermostats (except those located in bathrooms) have been replaced
- Invoice for thermostats
- Model number(s) of thermostat(s)

Reimbursement Strategies and Levels

Replacement of bi-metal line voltage thermostats in existing single-family homes with line voltage electronic thermostats will be credited/reimbursed per home as listed in table R-7. The credits/reimbursements in heating zones 2 and 3 are capped based on the incremental cost of the measure.

Table R-7: Credits/Reimbursements for Line Voltage Electronic Thermostats per Home

HZ 1	$115
HZ 2	$160
HZ 3	$160

Weatherization

Three weatherization measures are described below: (1) standard-income weatherization, (2) low-income weatherization and (3) low-income window replacement.

Documentation Requirements (If any specifically required)

The following information must be included in weatherization documentation:

- Installation address
- Audit or field notes detailing pre- and post conditions
- Invoices for measures installed
- Documentation of the weatherization measures installed (e.g., sq. ft. of insulation, r-value, etc.)

1. Standard-Income Weatherization

Requirements and Specifications

BPA will accept claims for CRC credit or CAA invoices for weatherization of existing single-family, multifamily and manufactured homes only on the condition that these residences have been retrofitted in compliance with the most recent site-built weatherization specifications or mobile home weatherization specifications, which are available in the PTR, under Downloads.

Insulation measures must follow the latest version of the "Weatherization Specifications" found in the PTR. Air-sealing measures must follow the latest version of the "Air Sealing" specifications found in the PTR.

Documentation Requirements (If any specifically required)

See the documentation requirements in the Weatherization description above.

Reimbursement Strategies and Levels

BPA will offer $0.30 per kWh savings for the cost-effective retrofit measures in the RTF list.

To the extent there are cost-effective retrofit weatherization measures in the RTF list for multifamily and manufactured homes, the reimbursement will be the same $0.30 per kWh. Credits/reimbursements and busbar savings for specific measures can be found in the PTR.

2. Low-Income Weatherization

Requirements and Specifications

Low-income measures are generally the same as the weatherization measures found in all similar homes with the exception of Prime Window Replacements. Because utilities that provide funding for low-income programs to Low-Income Weatherization Service Providers (LIWSP) must ensure that the measures are cost-effective and qualifying, BPA has attached a simple list of the measures that are qualifying, including the prime window replacements. (See table R-8 for the Low-Income Weatherization Measure List)

CRC funds can only be used to install eligible measures, in electrically-heated homes in the customer's service territory. Eligible measures are those that the RTF has defined as Total Resource Cost (TRC) cost-effective that are also approved by BPA. The CRC has a defined list of eligible measures that might be different than the list of eligible measures defined by the Department of Energy's Savings to Investment Ratio (SIR) method.

Utilities can provide funds to state/LIWSP/tribal organizations and receive credit on a dollar-for-dollar basis, with the exception of prime window replacements for the purpose of low-income weatherization. (Prime

window replacements are an eligible measure, but do not qualify for the dollar-for-dollar credit. The credit for TRC cost-effective low-income prime window replacement is capped at $0.30 per kWh saved).

Alternatively, utilities can run their own low-income weatherization program and will be credited on the same dollar-for-dollar basis as funding provided to LIWSPs. Utilities choosing to run their own low-income weatherization program should be in substantial compliance with programs currently funded by BPA grants for the U.S. Department of Energy Low-Income Weatherization Program requirements.

The following conditions apply to all low-income weatherization programs:

- Utilities should have a written agreement with the LIWSP outlining terms and conditions, and reporting requirements.
- CRC funds cannot be used to do repair work needed to install cost-effective weatherization measures.
- CRC funds and BPA funds provided to state/LIWSP/tribal organizations cannot be co-mingled and must be used for separate activities or projects.
- Low-income activity qualifies for an administrative allowance, regardless of whether a customer provides funds to a LIWSP or runs its own program.
- Eligible measures will be reported in the PTR System. The customer will be required to enter the square footage data on a measure basis. Data on a house-by-house basis is not required in the PTR System; however, house-by-house data must be maintained in customer records.
- Oversight:
    - Customers need to provide an appropriate level of oversight to ensure that CRC funds provided to LIWSPs are used only to install eligible measures.
    - Customers and LIWSPs should expect the same level of oversight and diligence from BPA on low-income weatherization claims as they would expect for other reported activity in the CRC.

Documentation Requirements (If any specifically required)

The following documentation requirements apply:

- Documents detailing cost of installed measures
- Documentation of the weatherization measures installed (e.g., sq. ft. of insulation, r-value, etc.)
- Accounting that shows the amount contributed and the amount spent on non-windows measures (to account for the dollar-for-dollar requirement)

Reimbursement Strategies and Levels

BPA will offer $0.30 per kWh savings for the cost-effective retrofit measures in the RTF list.

To the extent there are cost-effective retrofit weatherization measures in the RTF list for multifamily and manufactured homes, the reimbursement will be the same $0.30 per kWh. Credits/reimbursements and busbar savings for specific measures can be found in the PTR.

Note: Under a separate BPA program, BPA will directly fund low-income weatherization through the existing state/LIWSP/tribal infrastructure at a level of up to $5 million per year for the FY 2007 to 2009 Rate Period.

Table R-8: Low Income Weatherization List

BPA designates measures eligible under the Low Income Weatherization provisions of the Conservation Rate Credit $ for $ credit. Utilities are also directed to inform the state/CAP agencies/tribal organizations that receive CRC funds, that CRC funds can only be spent on measures that are listed as qualifying measures.

Shaded Measures Do Not Qualify for Low Income Weatherization Measure credit.

Technology, Measure or Practice	"Qualifies" or "Does Not Qualify"
Single Family Wx (All Heating Zones)	
Single Family Weatherization - Infiltration Control (Cost and Savings per sq.ft. of floor area for each 0.1 ach reduction)	Qualifies
Single Family Weatherization - R0 to R19 Attic Insulation (Cost and Savings are per sq.ft. of attic area insulated)	Qualifies
Single Family Weatherization - R19 to R38 Attic Insulation (Cost and Savings are per sq.ft. of attic area insulated)	Qualifies
Single Family Weatherization - R0 to R19 Floor Insulation (Cost and Savings are per sq.ft. of floor area insulated)	Qualifies
Single Family Weatherization - R19 to R30 Floor Insulation (Cost and Savings are per sq.ft. of floor area insulated)	Qualifies
Single Family Weatherization - R0 to R11 Wall Insulation (Cost and Savings are per sq.ft. of wall area insulated)	Qualifies
Multifamily Wx (All Heating Zones)	Qualifies
Multifamily Weatherization - R0 - R19 Attic insulation (Cost & Savings are per square foot of attic area insulated)	Qualifies
Multifamily Weatherization - R19 - R38 Attic insulation (Cost & Savings are per square foot of attic area insulated)	Qualifies
Multifamily Weatherization - R0 - R19 Floor insulation (Cost & Savings are per square foot of floor area insulated)	Qualifies
Multifamily Weatherization - R19 - R30 Floor insulation (Cost & Savings are per square foot of floor area insulated)	Qualifies
Multifamily Weatherization - R0 - R11 Wall Insulation (Cost & Savings are per square foot of area insulated)	Qualifies
Multifamily Weatherization - Infiltration Control	Does Not Qualify

Technology, Measure or Practice	"Qualifies" or "Does Not Qualify"
Manufactured Home Wx	
HZ1	
Manufactured Home Weatherization - Infiltration Control (Cost and savings are per square foot of floor area per 0.1 air change per hour infiltration rate reduction) - Heating Zone 1	Qualifies
Manufactured Home Weatherization - Attic Insulation R0 to R19 (Cost and savings are per square foot of attic insulated) - Heating Zone 1	Qualifies
Manufactured Home Weatherization - Attic Insulation R19 to R30 (Cost and savings are per square foot of attic insulated) - Heating Zone 1	Does Not Qualify
Manufactured Home Weatherization - Floor Insulation R0 to R11 (Cost and savings are per square foot of floor insulated) - Heating Zone 1	Qualifies
Manufactured Home Weatherization - Floor Insulation R11 to R22 (Cost and savings are per square foot of floor insulated) - Heating Zone 1	Does Not Qualify
HZ2	
Manufactured Home Weatherization - Infiltration Control (Cost and savings are per square foot of floor area per 0.1 air change per hour infiltration rate reduction) - Heating Zone 2	Qualifies
Manufactured Home Weatherization - Attic Insulation R0 to R19 (Cost and savings are per square foot of attic insulated) - Heating Zone 2	Qualifies
Manufactured Home Weatherization - Attic Insulation R19 to R30 (Cost and savings are per square foot of attic insulated) - Heating Zone 2	Does Not Qualify
Manufactured Home Weatherization - Floor Insulation R0 to R11 (Cost and savings are per square foot of floor insulated) - Heating Zone 2	Qualifies
Manufactured Home Weatherization - Floor Insulation R11 to R22 (Cost and savings are per square foot of floor insulated) - Heating Zone 2	Qualifies
HZ3	
Manufactured Home Weatherization - Infiltration Control (Cost and savings are per square foot of floor area per 0.1 air change per hour infiltration rate reduction) - Heating Zone 3	Qualifies
Manufactured Home Weatherization - Attic Insulation R0 to R19 (Cost and savings are per square foot of attic insulated) - Heating Zone 3	Qualifies

Technology, Measure or Practice	"Qualifies" or "Does Not Qualify"
Manufactured Home Weatherization - Attic Insulation R19 to R30 (Cost and savings are per square foot of attic insulated) - Heating Zone 3	Does Not Qualify
Manufactured Home Weatherization - Floor Insulation R0 to R11 (Cost and savings are per square foot of floor insulated) - Heating Zone 3	Qualifies
Manufactured Home Weatherization - Floor Insulation R11 to R22 (Cost and savings are per square foot of floor insulated) - Heating Zone 3	Qualifies
PTCS Duct Sealing	
Gas Heated Homes - Cooling Only (All Cooling Zones)	
Manufactured Home w/o Electric Heat, w/CAC - PTCS Duct Sealing	Does Not Qualify
Manufactured Home Natural Choice, w/CAC - PTCS Duct Sealing	Does Not Qualify
Single Family w/o Electric Heat w/CAC - PTCS Duct Sealing	Does Not Qualify
Electrically Heated Homes (Single Family and Manufactured Homes)	
H1	
Manufactured Home Non-SGC Forced Air Furnace w/o CAC - PTCS Duct Sealing Heat Zone 1	Qualifies
Manufactured Home SGC Forced Air Furnace w/o CAC - PTCS Duct Sealing Heat Zone 1	Does Not Qualify
Single Family Forced Air Furnace w/o CAC - PTCS Duct Sealing Heat Zone 1	Qualifies
H1C1	
Manufactured Home Non-SGC Forced Air Furnace w/CAC - PTCS Duct Sealing Heat Zone 1 - Cool Zone 1	Qualifies
Manufactured Home Non-SGC Heat Pump - PTCS Duct Sealing Heat Zone 1 - Cool Zone 1	Qualifies
Manufactured Home SGC Forced Air Furnace w/CAC - PTCS Duct Sealing Heat Zone 1 - Cool Zone 1	Qualifies
Manufactured Home SGC Heat Pump - PTCS Duct Sealing Heat Zone 1 - Cool Zone 1	Does Not Qualify
Single Family Forced Air Furnace w/CAC - PTCS Duct Sealing Heat Zone 1 - Cool Zone 1	Qualifies
Single Family Heat Pump - PTCS Duct Sealing Heat Zone 1 - Cool Zone 1	Qualifies
H1C2	

Technology, Measure or Practice	"Qualifies" or "Does Not Qualify"
Manufactured Home Non-SGC Forced Air Furnace w/CAC - PTCS Duct Sealing Heat Zone 1 - Cool Zone 2	Qualifies
Manufactured Home Non-SGC Heat Pump - PTCS Duct Sealing Heat Zone 1 - Cool Zone 2	Qualifies
Manufactured Home SGC Forced Air Furnace w/CAC - PTCS Duct Sealing Heat Zone 1 - Cool Zone 2	Qualifies
Manufactured Home SGC Heat Pump - PTCS Duct Sealing Heat Zone 1 - Cool Zone 2	Does Not Qualify
Single Family Forced Air Furnace w/CAC - PTCS Duct Sealing Heat Zone 1 - Cool Zone 2	Qualifies
Single Family Heat Pump - PTCS Duct Sealing Heat Zone 1 - Cool Zone 2	Qualifies
H1C3	
Manufactured Home Non-SGC Forced Air Furnace w/CAC - PTCS Duct Sealing Heat Zone 1 - Cool Zone 3	Qualifies
Manufactured Home Non-SGC Heat Pump - PTCS Duct Sealing Heat Zone 1 - Cool Zone 3	Qualifies
Manufactured Home SGC Forced Air Furnace w/CAC - PTCS Duct Sealing Heat Zone 1 - Cool Zone 3	Qualifies
Manufactured Home SGC Heat Pump - PTCS Duct Sealing Heat Zone 1 - Cool Zone 3	Does Not Qualify
Single Family Forced Air Furnace w/CAC - PTCS Duct Sealing Heat Zone 1 - Cool Zone 3	Qualifies
Single Family Heat Pump - PTCS Duct Sealing Heat Zone 1 - Cool Zone 3	Qualifies
H2	
Manufactured Home Non-SGC Forced Air Furnace w/o CAC - PTCS Duct Sealing Heat Zone 2	Qualifies
Manufactured Home SGC Forced Air Furnace w/o CAC - PTCS Duct Sealing Heat Zone 2	Qualifies
Single Family Forced Air Furnace w/o CAC - PTCS Duct Sealing Heat Zone 2	Qualifies
H2C1	
Manufactured Home Non-SGC Forced Air Furnace w/CAC - PTCS Duct Sealing Heat Zone 2 - Cool Zone 1	Qualifies
Manufactured Home Non-SGC Heat Pump - PTCS Duct Sealing Heat Zone 2 - Cool Zone 1	Qualifies
Manufactured Home SGC Forced Air Furnace w/CAC - PTCS Duct Sealing Heat Zone 2 - Cool Zone 1	Qualifies
Manufactured Home SGC Heat Pump - PTCS Duct Sealing Heat Zone 2 - Cool Zone 1	Qualifies
Single Family Forced Air Furnace w/CAC - PTCS Duct Sealing Heat Zone 2 - Cool Zone 1	Qualifies

Technology, Measure or Practice	"Qualifies" or "Does Not Qualify"
Single Family Heat Pump - PTCS Duct Sealing Heat Zone 2 - Cool Zone 1	Qualifies
H2C2	
Manufactured Home Non-SGC Forced Air Furnace w/CAC - PTCS Duct Sealing Heat Zone 2 - Cool Zone 2	Qualifies
Manufactured Home Non-SGC Heat Pump - PTCS Duct Sealing Heat Zone 2 - Cool Zone 2	Qualifies
Manufactured Home SGC Forced Air Furnace w/CAC - PTCS Duct Sealing Heat Zone 2 - Cool Zone 2	Qualifies
Manufactured Home SGC Heat Pump - PTCS Duct Sealing Heat Zone 2 - Cool Zone 2	Qualifies
Single Family Forced Air Furnace w/CAC - PTCS Duct Sealing Heat Zone 2 - Cool Zone 2	Qualifies
Single Family Heat Pump - PTCS Duct Sealing Heat Zone 2 - Cool Zone 2	Qualifies
H2C3	
Manufactured Home Non-SGC Forced Air Furnace w/CAC - PTCS Duct Sealing Heat Zone 2 - Cool Zone 3	Qualifies
Manufactured Home Non-SGC Heat Pump - PTCS Duct Sealing Heat Zone 2 - Cool Zone 3	Qualifies
Manufactured Home SGC Forced Air Furnace w/CAC - PTCS Duct Sealing Heat Zone 2 - Cool Zone 3	Qualifies
Manufactured Home SGC Heat Pump - PTCS Duct Sealing Heat Zone 2 - Cool Zone 3	Qualifies
Single Family Forced Air Furnace w/CAC - PTCS Duct Sealing Heat Zone 2 - Cool Zone 3	Qualifies
Single Family Heat Pump - PTCS Duct Sealing Heat Zone 2 - Cool Zone 3	Qualifies
H3	
Manufactured Home Non-SGC Forced Air Furnace w/o CAC - PTCS Duct Sealing Heat Zone 3	Qualifies
Manufactured Home SGC Forced Air Furnace w/o CAC - PTCS Duct Sealing Heat Zone 3	Qualifies
Single Family Forced Air Furnace w/o CAC - PTCS Duct Sealing Heat Zone 3	Qualifies
H3C1	
Manufactured Home Non-SGC Forced Air Furnace w/CAC - PTCS Duct Sealing Heat Zone 3 - Cool Zone 1	Qualifies
Manufactured Home Non-SGC Heat Pump - PTCS Duct Sealing Heat Zone 3 - Cool Zone 1	Qualifies

Technology, Measure or Practice	"Qualifies" or "Does Not Qualify"
Manufactured Home SGC Forced Air Furnace w/CAC - PTCS Duct Sealing Heat Zone 3 - Cool Zone 1	Qualifies
Manufactured Home SGC Heat Pump - PTCS Duct Sealing Heat Zone 3 - Cool Zone 1	Qualifies
Single Family Forced Air Furnace w/CAC - PTCS Duct Sealing Heat Zone 3 - Cool Zone 1	Qualifies
Single Family Heat Pump - PTCS Duct Sealing Heat Zone 3 - Cool Zone 1	Qualifies
H3C2	
Manufactured Home Non-SGC Forced Air Furnace w/CAC - PTCS Duct Sealing Heat Zone 3 - Cool Zone 2	Qualifies
Manufactured Home Non-SGC Heat Pump - PTCS Duct Sealing Heat Zone 3 - Cool Zone 2	Qualifies
Manufactured Home SGC Forced Air Furnace w/CAC - PTCS Duct Sealing Heat Zone 3 - Cool Zone 2	Qualifies
Manufactured Home SGC Heat Pump - PTCS Duct Sealing Heat Zone 3 - Cool Zone 2	Qualifies
Single Family Forced Air Furnace w/CAC - PTCS Duct Sealing Heat Zone 3 - Cool Zone 2	Qualifies
Single Family Heat Pump - PTCS Duct Sealing Heat Zone 3 - Cool Zone 2	Qualifies
H3C3	
Manufactured Home Non-SGC Forced Air Furnace w/CAC - PTCS Duct Sealing Heat Zone 3 - Cool Zone 3	Qualifies
Manufactured Home Non-SGC Heat Pump - PTCS Duct Sealing Heat Zone 3 - Cool Zone 3	Qualifies
Manufactured Home SGC Forced Air Furnace w/CAC - PTCS Duct Sealing Heat Zone 3 - Cool Zone 3	Qualifies
Manufactured Home SGC Heat Pump - PTCS Duct Sealing Heat Zone 3 - Cool Zone 3	Qualifies
Single Family Forced Air Furnace w/CAC - PTCS Duct Sealing Heat Zone 3 - Cool Zone 3	Qualifies
Single Family Heat Pump - PTCS Duct Sealing Heat Zone 3 - Cool Zone 3	Qualifies

3. Low-Income Window Replacement

Requirements and Specifications

Table R-9 lists the allowed existing window condition by house type and heating zone. Existing single pane windows with storm windows may be considered single pane windows for the purpose of determining eligibility. Deemed savings and credits can be found in the PTR.

Table R-9: Low-Income Window Replacement Measure Eligibility

Heating Zone	House Type	Existing Window Condition
1	Single-Family	Single pane with any frame type or double pane with metal frame
1	Manufactured Home	Single pane with any frame type
1	Multifamily	Single-pane with any frame type
2	Single-Family	Single pane with any frame type or double pane with metal frame
2	Manufactured Home	Single pane with any frame type or double pane with metal frame
2	Multifamily	Single pane with any frame type or double pane with metal frame
3	Single-Family	Single pane with any frame type or double pane with metal frame
3	Manufactured Home	Single pane with any frame type or double pane with metal frame
3	Multifamily	Single pane with any frame type or double pane with metal frame

Documentation Requirements (If any specifically required)

The following documentation is required:

- Invoice
- National Fenestration Rating Council (NFRC) sticker or equivalent
- Description of home (stick built or manufactured)
- Description of original window and frame type

Reimbursement Strategies and Levels

BPA will credit 30 cents/kWh based on the REPLACEMENT of existing prime windows. Replacement windows must have a weighted average value of U=0.30. See table R-10 for the Low-Income Prime Window Replacement List.

Table R-10: Low-Income Prime Window Replacement List

Low-Income Prime Window Replacements **do not** qualify for $ for $ reimbursement or credit. Credit/reimbursement is based on $0.30 per kWh of annual energy savings. Annual energy savings and credit/reimbursement levels are listed per square foot of glazing area replaced. Where credit/reimbursement level is $0.00, the RTF has determined the application was not TRC Cost Effective and, therefore, **does not** qualify.

Measure	Building Type	Delivery Mechanism or Program	Annual Savings @ Busbar (kwh/yr)	Credit/ Reimburse-ment
Heating Zone 1				
Single Family Low-Income Class 30 Prime Replacement Windows - Single Pane Base	Single Family	Prime windows must have an NFRC rated U-factor of 0.30 or lower. Patio doors must have an NFRC rated U-factor of 0.35 or lower. Existing window must be single pane with wood or metal frame.	27	$ 8.07
Single Family Low-Income Class 30 Prime Replacement Windows - Double Pane Base	Single Family	Prime windows must have an NFRC rated U-factor of 0.30 or lower. Patio doors must have an NFRC rated U-factor of 0.35 or lower. Existing window must be single or double pane with wood or metal frame.	19	$ 5.67
Multifamily Low-Income Class 30 Prime Replacement Windows - Single Pane Base	Multifamily	Prime windows must have an NFRC rated U-factor of 0.30 or lower. Patio doors must have an NFRC rated U-factor of 0.35 or lower. Existing window must be single pane with wood or metal frame.	15	$ 4.52
Multifamily Low-Income Class 30 Prime Replacement Windows - Double Pane Base	Multifamily	Prime windows must have an NFRC rated U-factor of 0.30 or lower. Patio doors must have an NFRC rated U-factor of 0.35 or lower. Existing window must be single or double pane with wood or metal frame.	11	$ -
Manufactured Home Low-Income Class 30 Prime Replacement Windows - Single Pane Base	Manufactured Home	Prime windows must have an NFRC rated U-factor of 0.30 or lower. Patio doors must have an NFRC rated U-factor of 0.35 or lower. Existing window must be single pane with wood or metal frame.	24	$ 7.25
Manufactured Home Low-Income Class 30 Prime Replacement Windows - Double Pane Base	Manufactured Home	Prime windows must have an NFRC rated U-factor of 0.30 or lower. Patio doors must have an NFRC rated U-factor of 0.35 or lower. Existing window must be single or double pane with wood or metal frame.	17	$ -
Heating Zone 2				
Single Family Low-Income Class 30 Prime Replacement Windows - Single Pane Base	Single Family	Prime windows must have an NFRC rated U-factor of 0.30 or lower. Patio doors must have an NFRC rated U-factor of 0.35 or lower. Existing window must be single pane with wood or metal frame.	35	$ 10.65
Single Family Low-Income Class 30 Prime Replacement Windows - Double Pane Base	Single Family	Prime windows must have an NFRC rated U-factor of 0.30 or lower. Patio doors must have an NFRC rated U-factor of 0.35 or lower. Existing window must be single or double pane with wood or metal frame.	25	$ 7.49
Multifamily Low-Income Class 30 Prime Replacement Windows - Single Pane Base	Multifamily	Prime windows must have an NFRC rated U-factor of 0.30 or lower. Patio doors must have an NFRC rated U-factor of 0.35 or lower. Existing window must be single pane with wood or metal frame.	25	$ 7.48

Measure	Building Type	Delivery Mechanism or Program	Annual Savings @ Busbar (kwh/yr)	Credit/ Reimburse-ment
Multifamily Low-Income Class 30 Prime Replacement Windows - Double Pane Base	Multifamily	Prime windows must have an NFRC rated U-factor of 0.30 or lower. Patio doors must have an NFRC rated U-factor of 0.35 or lower. Existing window must be single or double pane with wood or metal frame.	18	$ 5.26
Manufactured Home Low-Income Class 30 Prime Replacement Windows - Single Pane Base	Manufactured Home	Prime windows must have an NFRC rated U-factor of 0.30 or lower. Patio doors must have an NFRC rated U-factor of 0.35 or lower. Existing window must be single pane with wood or metal frame.	33	$ 9.90
Manufactured Home Low-Income Class 30 Prime Replacement Windows - Double Pane Base	Manufactured Home	Prime windows must have an NFRC rated U-factor of 0.30 or lower. Patio doors must have an NFRC rated U-factor of 0.35 or lower. Existing window must be single or double pane with wood or metal frame.	23	$ 6.96
Heating Zone 3				
Single Family Low-Income Class 30 Prime Replacement Windows - Single Pane Base	Single Family	Prime windows must have an NFRC rated U-factor of 0.30 or lower. Patio doors must have an NFRC rated U-factor of 0.35 or lower. Existing window must be single pane with wood or metal frame.	42	$ 12.57
Single Family Low-Income Class 30 Prime Replacement Windows - Double Pane Base	Single Family	Prime windows must have an NFRC rated U-factor of 0.30 or lower. Patio doors must have an NFRC rated U-factor of 0.35 or lower. Existing window must be single or double pane with wood or metal frame.	29	$ 8.84
Multifamily Low-Income Class 30 Prime Replacement Windows - Single Pane Base	Multifamily	Prime windows must have an NFRC rated U-factor of 0.30 or lower. Patio doors must have an NFRC rated U-factor of 0.35 or lower. Existing window must be single pane with wood or metal frame.	29	$ 8.85
Multifamily Low-Income Class 30 Prime Replacement Windows - Double Pane Base	Multifamily	Prime windows must have an NFRC rated U-factor of 0.30 or lower. Patio doors must have an NFRC rated U-factor of 0.35 or lower. Existing window must be single or double pane with wood or metal frame.	21	$ 6.22
Manufactured Home Low-Income Class 30 Prime Replacement Windows - Single Pane Base	Manufactured Home	Prime windows must have an NFRC rated U-factor of 0.30 or lower. Patio doors must have an NFRC rated U-factor of 0.35 or lower. Existing window must be single pane with wood or metal frame.	39	$ 11.77
Manufactured Home Low-Income Class 30 Prime Replacement Windows - Double Pane Base	Manufactured Home	Prime windows must have an NFRC rated U-factor of 0.30 or lower. Patio doors must have an NFRC rated U-factor of 0.35 or lower. Existing window must be single or double pane with wood or metal frame.	28	$ 8.28

9. Renewables Option

Lead: Debra Malin

This section contains information about the Renewables Option (RO) of the Conservation Rate Credit.

Section

Purpose and Scope 95
Objectives of the Renewables Option 95
Definitions 95
General RO Requirements 98
What is a Qualified Renewable Energy Facility 99
Metering Requirements 100
Power Purchases from Power Marketers 100
Transfer of RO Claims for Renewable Energy Output 101
Environmental Attributes from Renewable Energy Sources 101
Renewables Purchases from BPA 103
Third Party Blended Renewable Resource Products 103
Community Owned Renewable Projects 104
Technical Specifications for PV systems and Solar Water Heaters 104
Renewable Education Programs 105
Donations 105
Contributions to Qualified Research Development & Demonstration Activities 106
Renewable Energy Purchased from qualifying Renewable Energy Facilities 108
Effects on Net Requirements Load 112
Duration of the RO and Renewable Energy Purchases 113
Administration 113
Optional Pre-Application 113
Reporting requirements 113
True-up for Generation-Based Claims 115
Procedures for Processing Reports and Applications 116
Rules for Pooling Renewables (Examples) 116

Tables and Figures:

Table RO-1: New Renewable Facility Credit 111
Table RO-2: Caps on Credit for Existing Renewable 112
Table RO-3: Renewable Credit Proxy Values 112
Figure RO-1: Renewable Reporting Timeline 120

Renewables Definition

Energy produced from a resource that is renewable, such as:

- Biogas
- Biomass
- Geothermal
- Hydroelectric
- Landfill Gas
- Ocean
- Solar
- Wind

Renewables Option

Criteria for Renewable Energy Resources Eligible for the Renewables Option (RO) of the Conservation Rate Credit

9.1 Purpose and Scope

The purpose of this section is to explain the procedures for implementing the RO.

Many of the new requirements included in this section exist because of the $6 million dollar/year cap on claims against the RO. To ensure this $6 million spending cap is not exceeded, claims against the RO will be pro rata reduced if they total more than $6 million in any single year. Several new reporting restrictions have been put into place to help ensure the $6 million is distributed fairly, that the objectives of the program are met (section 9.2), and that funds are channeled towards utilities with valid project/program needs.

9.2 Objectives of the Renewables Option

- To encourage the development of new incremental renewable energy facilities and activities in the Pacific Northwest
- To maximize the development of incremental renewable generation

9.3 Definitions

- **Community Owned Renewable Projects:** Community owned means that more than one member of the local community (private citizens or other non-municipal or utility entities) has a greater than 50 percent direct financial stake in a small commercial-scale project (meeting the New Renewable Energy Facility definition) other than through land lease payments, tax revenues, or other payments in lieu of taxes. Customers participating in such projects are eligible for an annual dollar for dollar rate credit for expenses associated with the project(s). As with other aspects of the RO, administrative costs are not eligible expenses. BPA will approve applications for a rate credit amount after the customer demonstrates to BPA's satisfaction that the proposed project meets this definition of a Community Owned Renewable Project.
- **Energy Costs** means the cost of project energy delivered to the point of interconnection expressed on a dollar/megawatt-hour basis. Administrative & General costs are not allowed.
    - For Power Purchase Agreements or Output Contracts this would be the contract price for the reporting year. If multiple prices are paid during the reporting year, an Energy Cost based on a weighted price for the reporting year should be utilized. The weighting should be based on the price paid for actual generation received.
    - For Renewable Projects that are owned by the utility, these costs would include capital costs, financing costs, operating and maintenance costs and land purchases or leases.

- **Environmental Attributes** means the non-power attributes associated with the energy generated from a renewable energy facility. Environmental attributes are the fuel type, emissions, or other environmental characteristic of a renewable resource. Non-power attributes or environmental attributes do not include any energy, capacity, reliability, or other power attributes used to provide electricity services. Environmental or non-power attributes are expressed in megawatt-hours (MWh); one Environmental Attribute represents the non-power attributes made available by the generation of 1 MWh of energy from a Renewable Energy Facility. Environmental Attributes are commonly referred to as "Renewable Energy Certificates" (RECs), "Green Tags," or "Tradable Renewable Certificates" (TRCs).
- **Environmentally Preferred Power (EPP):** One of BPA's renewable energy products for which BPA charges a Green Energy Premium. (WP-07-E-BPA-25)
- **Existing Renewable Energy Facility (Existing Facility)** is a Renewable Energy Facility that was energized prior to January 1, 2006, but after May 1, 1999.
- **Hybrid Facilities:** That fraction of a renewable energy facility that uses a Renewable Energy Fuel Source to generate electricity.
- **Incremental Renewable Energy Facilities and Activities:** Those activities and resources beyond that required by law. For example, in Oregon, the Investor-Owned Utilities System Benefit Charge is required by law; therefore, it is not incremental and is not eligible for the RO.
- **Integration Costs:** Costs of hour-to-hour storage and/or shaping of generation from non-dispatchable Renewable Energy Facilities. Integration costs do not include within hour ancillary services (imbalance and regulation costs) or transmission costs. Self-supplied storage and shaping is eligible, if costs are approved by BPA. BPA suggests self-supplied integration cost claims should be based on near-term opportunity costs. Certification by an independent CPA is required for approval.
- **Net Electric Energy** means the metered MWh generated and sold, and excludes electric energy used within the renewable energy facility to power equipment such as pumps, motors, controls, lighting, heating, cooling, and other systems needed to operate the facility.
- **New Renewable Energy Facility (New Facility)** is a Renewable Energy Facility that was energized after January 1, 2006. BPA will distinguish between new facilities and expansions of an existing facility on a case-by-case basis.
- **Pacific Northwest** has the meaning defined in section 3(14) of the Act, Public Law 96-501, 16 USC 839.
- **Project Costs:** Project Costs will be limited to independently CPA-certified contracted energy charges at the bus bar for the year in which the

claim is being made and independently CPA-certified Integration Costs for the year in which the project's generation being claimed.

Project Costs = [Energy Costs at the bus bar for the year in which the claim is being made + Integration Costs for the year in which the claim is being made]

- **Proxy for Avoided Cost:** The simple average of BPA's FY 2007 flat Priority Firm (PF) preference rate and the 2007 forward flat-block Mid-C market price used in the investor-owned utility residential exchange settlement. The 2007 forward flat block Mid-C market price used in the residential exchange settlement is equal to $58.46/MWh and the FY 2007-2009 flat PF preference rate is equal to $25.87/MWh, resulting in a Proxy for Avoided cost of $42.17/MWh. This amount is fixed for the entire FY 2007 – 2009 rate period.
- **PTR** means the Regional Technical Forum's Planning, Tracking and Reporting system (http://ptr.nwcouncil.org/)
- **Renewable Energy Certificates (RECs):** See Environmental Attributes.
- **Renewable Energy Facility** means a single module or unit, or an aggregation of such units, which generates electric energy that is independently metered and that results from the utilization of a Renewable Energy Fuel Source.
- **Renewable Energy Fuel Source** means:
  - **Biogas:** Electricity generated from the combustion of gases derived from animal manure, sewage digesters, or from decaying plant matter. Includes sewage treatment plant digesters, dairy-based anaerobic digesters, and biomass gasification.
  - **Biomass** is electricity generated from combustion of:
    - The organic, non-fossil-based portion of municipal solid waste
    - Energy crops
    - Agricultural residues
    - Untreated mill or forest residues
    - Biomass-derived energy from hybrid facilities, not including energy derived from fossil fuels

  Biomass does not include the combustion of black liqueur or preservative-treated wood waste.

  - **Geothermal**: Electricity generated from naturally occurring underground heat
  - **Hydroelectric**: Electricity generated by the flow of water at facilities located outside of protected areas as defined by the Council
  - **Landfill Gas**: Combustion of gases derived from landfills

- **Ocean**: Generation of electricity from wave, thermal gradient or tidal forces. Ocean energy is not likely to achieve commercial status during this rate period, and it is eligible as Research Development & Demonstration (RD&D) during the FY 2007-2009 rate period.
- **Solar**: Electricity generated from solar heat and light. Includes solar photovoltaic systems (PV) and solar water heaters.
- **Wind**: Electricity generated from wind. Because project size affects costs, wind projects are broken out into three categories:
  - Utility-scale wind projects with a total installed capacity greater than or equal to 10 MW
  - Wind projects with a total installed capacity of less than 10 MW but greater than 25 kW
  - Wind projects with a total installed capacity of less than or equal to 25 kW

- **Small commercial-scale:** All projects that are too large to qualify for net metering but less and 3-megawatt capacity (e.g., onsite home-sized projects are excluded and projects must be connected to the grid).

9.4 General RO Requirements

a. Only Incremental Renewable Energy Facilities and activities are eligible for the RO.

b. The RO is only available during FY 2007 through FY 2009. There was no early start for the RO claims portion of the CRC.

c. Renewable claims under the RO must be spent on qualifying renewable activities and or projects prior to the end of the rate period (e.g., money claimed against the renewable program under CRC should not be used for conservation measures). If all of the money claimed on renewables is not directed towards qualifying renewable projects or activities and reported to BPA by October 31, 2009, the customer will be billed for that portion of their renewable claim which remains unreported, plus interest. Interest will accrue on the unreported amount from the date of the customer's first renewable claim against the CRC program for the FY 2007-2009 rate period. Interest will be calculated by dividing the Prime Rate for Large Banks as reported in the Wall Street Journal, plus 4 percent; by 365. The applicable rate for Large Banks shall be the rate reported on October 31, 2009. Customers will be billed on the November 2009 bill, issued in December 2009.

d. Claims made under the RO need to be substantiated using the PTR System (see section 4.1 and 9.22 for reporting requirements).

e. Administrative activities do not qualify for the RO unless otherwise exempted.

f. Individual customer RO claims are limited to the customer's total CRC eligibility for the fiscal year in which the claim is being made. Note that customer RO claims may be further limited by the prorated reductions made pursuant to Section 9.22 of this Manual.

g. Energy generation and project cost claims must be verified via an independent annual audit which must be submitted with the utility's annual written report.

h. It is not a requirement that the timeframes for receiving the CRC and investing in a renewable facility match. For example, it is acceptable for a utility to justify their FY 2007 credit with a renewable facility that comes on line in FY 2008 or FY 2009.

9.5 What is a Qualified Renewable Energy Facility

To be eligible for the RO, a renewable energy facility must satisfy the following criteria:

a. The energy must be generated using a Renewable Energy Fuel Source and meet one of the following criteria:

1. **Time of first use** — The facility must begin commercial operation no earlier than May 1, 1999, and no later than December 31, 2009.

2. New Facilities energized after September 30, 2009, but prior to December 31, 2009, may qualify for the RO on a case by case basis, subject to BPA approval. To qualify, the customer must provide BPA with the verification information listed below. If any one of these conditions is not met, the customer must repay BPA for claims based on the facility, plus interest (see section 9.4(c), except that the billing schedule will begin January 2010 for customers with facilities falling under this category.)

i. Verification that the customer has entered into a power purchase agreement during FY 2007 – 2009 for the output of the facility.

ii. Evidence supporting the claim that the facility will be energized by December 31, 2009. Examples: contractual incentives for commercial operation by December 31, 2009, or penalties for late performance.

iii. Verification by no later than January 15, 2010, that the New Facility achieved commercial operation by December 31, 2009.

3. Renewable Energy Facilities on-line prior to May 1, 1999, are eligible for RO if they have been rebuilt or expanded. The following criteria apply:

i. Rebuilt facilities qualify if the fair market value of the facility before the upgrades is less than 20 percent of the

new total fair market value. In other words, capitol investments in the new facility must total at least 80 percent of the value of the assessed value of the repowered facility. Tax records should be provided to validate this claim.

ii. Incremental expansions to Renewable Energy Facilities qualify if the additional equipment generates incremental energy which is metered independently from the original facility. Replacement or modification of existing equipment that does not change gross power production, but results in a reduction of electric power consumption, will be considered conservation.

b. **Location** — renewable energy facilities must be located in the Pacific Northwest, with the following three exceptions:

1. The currently permitted Wyoming Wind Project at Foote Creek Rim and Simpson Ridge in Carbon County, Wyoming
2. Projects shown by the applicant to effectively displace operation of regional nonrenewable generation resources (subject to BPA's approval)
3. The project or a portion of the project serves load within the Pacific Northwest (subject to BPA's approval)

9.6 Metering Requirements

Except for PV, solar water heaters and RD&D projects, the output of renewable energy facilities must be metered by a revenue-quality meter at the point of delivery in accordance with generally accepted utility standards, and output and meter calibration records must be available for inspection by BPA upon request.

9.7 Power Purchases from Power Marketers

Purchases from power marketers and pooling organizations are eligible for the RO provided:

a. The underlying resources meet the eligibility requirements for renewable energy facilities.

b. The customer can supply documentation verifying the renewable energy resource eligibility; the amount and term of the purchase, the Project Costs, and attestation that the environmental attributes have not been sold or claimed elsewhere. The amount of the RO available for each type of underlying renewable energy facility is specified in tables 1 and 2 in section 9.17.

c. Customers are required to retain and retire within their service territory the environmental attributes associated with power purchases from qualifying renewable energy facilities when claiming such purchases on their annual CRC report. If the environmental

attributes are sold into the customer's green pricing program. Costs of administrating the green pricing program may qualify as eligible expenses. Revenues from the attribute sales and the pricing program must be reinvested in the green pricing program to qualify for the RO.

9.8 Transfer of RO Claims for Renewable Energy Output

Customers may enter contractual arrangements through which one customer would own or purchase the output from an eligible renewable energy facility and other customers would apply their RO to the output.

For example, Customer A could sign a power purchase agreement with a developer for 15 MW of wind power from a qualifying new renewable energy facility. Customer A could assign the right to claim the project as a new renewable energy facility to Customer B under a separate payment arrangement with Customer A. All of the project's output would be delivered to, and used in, Customer A's system, but Customer B would own and could claim the resource under the RO. The RECs from this project must be retired within one of the participating parties' service area(s) for the entire rate period and should not be subject of a second claim.

Customers may also transfer RO claims to other BPA customers by selling the attributes or RECs generated by eligible renewable energy facilities to other BPA customers.

9.9 Environmental Attributes from Renewable Energy Sources

This section applies only to Renewable Energy Certificates (Green Tags, RECs, or environmental attributes), not to Environmentally Preferred Power (EPP); section 9.10 addresses EPP.

RECs are eligible for RO, provided the following conditions are met:

a. Megawatt-hours cannot be claimed twice under the RO. RECs associated with renewable energy claimed elsewhere under the RO are not eligible for additional RO benefits under this section. RECs from new facilities cannot be claimed under this program during this rate period if the energy from the project is the subject of a RO claim anytime during the rate period.

b. Claims based on RECs from a single New Facility cannot total more during the 3-year rate period (for all customers) than could be derived from a claim based on one year of generation times the appropriate $/MWh credit cap (table RO-1, section 9.16).

   For example, IOU #1 builds a 100 MW wind facility. In its first year of production, the project produces 220,000 MWh of generation at a total cost (Energy + Integration Costs) of $55.87. Using all of the production of the facility, IOU#1 could justify a CRC credit of $3,014,000 (($55.87 - $42.17)*220,000). If IOU #1 chose to instead sell the RECs to various PUD's then the total amount of CRC claims via RECs from this wind facility could not exceed $3,014,000 over the 3-year rate period.

Further, if IOU #1 had a CRC credit of $2,000,000, it could use this wind facility to a) meet that credit requirement and; b) sell the RECs associated with the facility that were not allocated to the CRC to other utilities to meet their CRC obligation.

Without this restriction, REC claims for a specific New Facility could be claimed for all three years of the rate period at a purchase price equal to the credit cap. Under this scenario, REC claims would total three times that of a straight facility claim. (The amount of credit associated with REC claims is equal to the purchase price of the REC, not to exceed the caps posted in tables RO-1 and RO-2; RECs can be claimed all three years of the rate period.)

c. Only RECs which are retired within the purchasing utility' service area are eligible for the RO program. RECs sold outside of the utility's service area cannot be claimed by the seller but may be claimed by the purchaser. RECs resold in a premium green pricing program will be eligible for RO credit in an amount equal to the REC purchase price if the revenues from the green pricing program, net of REC purchase price, are reinvested in qualifying New Renewable Energy Facilities, other qualifying Renewable Education program(s), qualifying RD&D project(s) or the green pricing program. Costs of administrating the green pricing program may qualify as eligible expenses. Demonstration of reinvestment will be required in the October 31 annual report to BPA as required in section 9.22.

    1. The facility generating the RECs must be a qualifying Renewable Energy Facility as defined in section 9.5.
    2. The output of the generating resource from which the RECs originated is metered (section 9.6).
    3. The REC claim is accompanied by: (1) a generator attestation verifying the monthly output of the generation facility, that the RECs have been sold only once, and that the RECs retain associated emission offsets; (2) Wholesaler attestation(s) verifying that the RECs have been sold only once and retain associated emission offsets; and (3) an independent annual audit verifying purchase price. Verification of REC ownership from the Western Renewable Energy Generation Information System can be used in lieu of (1) and (2) above.
    4. RECs can only be claimed in the year in which they are generated.
    5. RO credit amount: Payment scale is equal to the purchase price of the RECs, not to exceed the resource specific credit caps listed in table RO-1 or table RO-2 (section 9.16). Proof of purchase price must be verified via independent audit and provided to BPA by October 31 for the proceeding fiscal year.

d. Solar exception. RECs from PV units claimed under the RO can be sold outside of the customer's service area because the credit for solar units has been reduced to $500/kW.

9.10 Renewables Purchases from BPA

BPA currently offers three types of renewable products: (a) Environmentally Preferred Power (EPP), (b) Alternative Renewable Energy (ARE) and (c) RECs.

a. **EPP and ARE:** BPA will reinvest the Green Energy Premiums (as defined in WP-07-FS-BP-05, page 29) associated with EPP and ARE sales in the Pacific Northwest Renewable RD&D projects. Therefore, 100 percent of the Green Energy Premium associated with EPP and ARE ($10.50/MWh) is eligible for the rate credit under the RO.

   ARE and EPP remarketed into green pricing programs is eligible for the RO if proceeds, net of the EPP/ARE purchase price, are reinvested in New Renewable Energy Facilities, Renewable Education program(s), qualifying RD&D project(s), or the green pricing program itself. Costs of administrating the green pricing program may qualify as eligible expenses. Demonstration of reinvestment will be required in the October 31 annual report to BPA required in section 9.22.

b. **RECs:** BPA will reinvest the green energy premiums associated with EPP in Pacific Northwest renewable RD&D projects. Therefore, the amount of the RO for BPA's RECs will be 100 percent of the premium paid for this product.

   RECs remarketed into green pricing programs are eligible for the CRC if proceeds, net of the REC purchase price, are reinvested in New Renewable Energy Facilities, Renewable Education program(s), qualifying RD&D project(s), or the green pricing program. Costs of administrating the green pricing program may qualify as eligible expenses. Demonstration of reinvestment will be required in the October 31 annual report to BPA required under section 9.22.

c. Customers are required to retain and retire within their service territory the environmental attributes associated with EPP or RECs purchased from BPA when claiming such purchases under the RO.

9.11 Third Party Blended Renewable Resource Products

A customer can receive credit under the RO for the purchase of a third party, or their own, blended renewable resource product consisting of Existing or New Renewable Energy Facilities meeting the eligibility criteria of the RO. The appropriate "new" credit will be given to the new portion of the product for one year of estimated generation. The "existing" portion of the blended product will be given the appropriate credit for Existing Renewable Energy Facilities. Renewable energy claimed elsewhere under the RO is not eligible for additional RO benefits under this section.

Customers are required to retain and retire within their service territory the RECs associated with such transactions when claiming such purchases under the RO.

9.12 Community Owned Renewable Projects

Expenses associated with Community Owned Renewable Projects, incurred by the customer, which include but are not limited to interconnection, integration, and energy costs above the Proxy for Avoided Cost, which are not passed through to the utilities customers or to the Community-owned project, are eligible for a dollar-for-dollar credit. Community Owned Renewable Projects are New Renewable Energy Facilities; therefore, claims based on energy production are limited to one year of actual generation. Consistent with other eligible activities and programs under this chapter, Administrative costs are not eligible.

9.13 Technical Specifications for PV systems and Solar Water Heaters

a. **Customer-side solar photovoltaic systems** — Eligible PV systems must meet the following requirements:

1. Photovoltaic modules and inverters must be certified by the California Energy Commission (CEC). The lists of CEC-certified modules and inverters are posted on the California Energy Commission Web site (http://www.consumerenergycenter.org/erprebate/equipment.html).

2. The system must be installed by a licensed contractor, unless installed by the purchaser, and must be installed in conformance with the system manufacturer's specifications and with applicable electrical codes and standards.

3. Photovoltaic modules must be listed by a nationally recognized testing laboratory as meeting the requirements of the Underwriters Laboratory Standard 1703. Inverters must be listed by a nationally recognized testing laboratory for safe operation. Further, all grid-connected, inverter-based systems must meet the Institute of Electrical and Electronic Engineers Standard 929-2000. In the absence of a recognized testing standard, manufacturers of concentrator photovoltaic systems must provide acceptable evidence of one year of reliable operation of that model of equipment.

4. Photovoltaic systems credited under the RO must be warranted as follows:

   i. The warranty must cover the photovoltaic panel components of the generating system against breakdown or degradation in electrical output of

more than 20 percent from their originally rated electrical output in the first 20 years.

ii. Other components of the generating systems against breakdown or degradation for five years, including the full cost of repair or replacement of defective components or systems.

b. **Solar Domestic Water Heaters** — Eligible solar domestic water heating systems must be designed, installed, inspected, and found to be in substantial compliance with the most recent version of the *Bright Way to Heat Water Program - General and Technical Specifications*. These program specifications are available on the PTR System, under Downloads. Utilities claiming renewables credit for solar water heating systems under the RO are required to sign a *Bright Way to Heat Water* licensing agreement, available from BPA.

9.14 Renewable Education Programs

Renewable Education Programs are customer-funded curriculum and demonstration projects. Education programs are eligible for a dollar-for-dollar rate credit, capped at the greater of 20 percent of a customer's total CRC over the rate period or $25,000/year. In no year shall a customers Renewable Education Program claim exceed that customer's pro rata reduced Renewable rate credit for the applicable year.

9.15 Donations

Donations to 501c (3) non-profit organizations promoting renewable resource development in the Pacific Northwest are eligible for the RO upon BPA approval. Examples of organizations that may qualify: Bonneville Environmental Foundation, Energy Trust of Oregon, Climate Trust, Last Mile Electric Coop, and Northwest Seed. Donations are limited to 20 percent of the customer's total CRC over the rate period. One hundred percent of the donated amount is eligible for the RO. BPA may waive the 20 percent cap on a case-by-case basis if there are compelling reasons to do so.

To qualify for credit, the following conditions must be met:

a. The 501c (3) recipient will be asked to self-certify that at least 80 percent of the donation will be used to support renewable resource activities as contemplated elsewhere in this Manual and must demonstrate that the donation was not used to support lobbying activities.

b. The receiving organization will provide BPA and the donating customer a report documenting use of the donated funds by no later than October 31 of each year, for the preceding year. BPA reserves the right to audit the receiving organization.

9.16 Contributions to Qualified Research Development & Demonstration Activities

One hundred percent of the amount spent on qualified RD&D activities is eligible for the RO; however, renewable RD&D claims cannot comprise more than 40 percent of the participating utility's total CRC over the rate period. Costs are limited to those incurred from October 1, 2006, to September 30, 2009. Electricity production obtained as a result of a RD&D activity will not qualify for RO credits. BPA may waive the 40 percent cap on a case-by-case basis if there are compelling reasons to do so.

BPA pre-approved RD&D activities include:

a. The regional wind data collection program administered by Oregon State University.

b. The Regional Solar Radiation Data Center administered by the University of Oregon, and the Wave Energy Technology Center.

c. New ocean-powered renewable energy facilities.

d. BPA will approve small-scale (less than $20,000 per installation) renewable energy demonstration systems on a case-by-case basis without consultation with the RTF, provided the project meets all of the following criteria:

   1. The performance of the project is measured on at least monthly intervals. Projects using revenue-quality meters are preferred but not required.

   2. The system performance and description of the project must be reported to the public via the Intranet, as well as local reporting mechanisms, before September 30, 2009.

   3. The project falls under at least one of the Eligible Activities listed below, in section 9.16.1 and not specifically excluded in section 9.16(e).

9.16.1 Eligible RD&D Activities

The following categories of activities potentially qualify for the RO as RD&D activities. Qualification will be determined using the criteria listed in section 9.15.2.

a. Assessment of the supply, location, development potential, or quality of renewable energy sources.

b. General preparations (i.e., not in sole support of a specific project) for the development of renewable resource areas. These efforts may include identification and resolution of technical, environmental, and institutional issues potentially affecting resource development.

c. Research regarding environmental or other issues affecting the development and operation of renewable energy facilities.

These may be undertaken at a specific project, providing the results will significantly benefit other projects.

d. Development or demonstration of new technologies with potentially significant application to the use of renewable energy sources.

e. Demonstration of novel applications of established technologies using renewable energy sources (e.g., new applications of commercially available technologies). Conventional applications of commercially available technologies are not considered RD&D. For example: PV installations using conventional approaches/designs are no longer considered to be in the developmental phase and will not be considered RD&D. PV installations using new designs or novel applications may be considered developmental.

   While a RD&D activity may be undertaken in conjunction with the development of a specific commercial project, the cost of the activity should not include the costs of developing or operating a proven commercial application. Efforts to lower costs through increased production or mass purchase of commercial technologies are not considered to be RD&D.

f. Provision of information useful for the evaluation, siting, design, or operation of facilities using renewable energy sources.

9.16.2 Criteria used to Evaluate Proposed Renewable Resource Research, Development, and Demonstration Activities

Other RD&D activities may be proposed and approved by BPA on a case-by-case basis or, at BPA's sole discretion, submitted to the RTF for review. The proposal must include research technology, renewable fuel source, location, objectives, approach/methodology, tasks, timeline, budget, and milestone reporting schedule. The proposal should clearly state the project's specific stage in the technology continuum (hypothesis, research, development, or demonstration). The proposal should also include a section addressing the criteria set forth here, as applicable:

a. The activity should have a high probability of expanding the use of qualifying renewable resources in the Northwest.

b. The activity should have a high probability of achieving one or more of the following objectives: reduced resource development or operating costs; improved technology performance (reliability, conversion efficiency, etc.); reduced environmental impact; improved project development characteristics (e.g., lead time); and improved forecasts of cost, performance, development timeline, or environmental impact.

c. Preferably, activities should address resources promising low or declining costs, abundant quantity, modest or beneficial environmental effects, and favorable development characteristics, including short lead-time and modularity.

d. Preference for activities designed to achieve multiple objectives and widespread benefits (e.g., the activity should foster the development of qualifying resources in general, as distinguished from primarily supporting the development of a specific commercial project). For example, assessment of the spatial extent, and general turbulence and wind shear characteristics of a wind resource area could be considered a qualifying RD&D activity, whereas studies leading to the placement of individual wind turbines are a responsibility of the commercial developer.

e. Projects that are co-funded/co-sponsored are preferred. Co-funded amounts are excluded from the RO credit.

9.17 Renewable Energy Purchased from qualifying Renewable Energy Facilities

Methods to calculate the RO credit earned by energy purchases from eligible Renewable Energy Facilities are described below. The $/MWh cap for each resource type is shown in table RO-1 (New Facilities) and table RO-2 (Existing Facilities).

a. **New Renewable Energy Facilities:** To be eligible for credit, the New Facility must qualify under sections 9.4, 9.5, and 9.6. The amount of the credit earned by New Facilities is based on the difference between Project Costs and the Proxy for Avoided Costs ($42.17/MWh) and capped at $27/MWh. Credit can be earned for up to one year (any consecutive 12 month period during the program) of generation regardless of whether the facility is energized in the beginning or at the end of the rate period.

Calculating the credit:

1. New Utility-scale wind (> 10 MW): The amount of the RO is equal to the customer's share of the output from a New Utility Scale Wind project over any single fiscal year during the rate period, multiplied by the difference between actual Project Costs and the Proxy for Avoided Costs, with that difference not to exceed $27/MWh (see NOTE below).

Claims submitted as part of the October 31 report to BPA (section 9.22 b) should be based on actual generation and should use metered data. Claims based on forecasted generation should use capacity factors provided in table RO-1 and the nameplate rating of the facility. Forecasted claims apply to projects not on line by the end

of the rate period, but scheduled to be in commercial operation prior to December 31, 2009.

Third party verification (CPA audit) of Project Costs and actual generation should be included in the October 31 annual report to BPA (BPA may grant case-by-case extensions for audit reports).

New Utility-Scale wind Credit = [(Energy Costs at the busbar for the year in which the claim is being made +Integration Costs for the year in which the claim is being made) – (Proxy for Avoided Cost)] x MWh generated over one year; This amount is not to exceed the cap posted in table RO-1.

2. All other New Renewable Facilities: The amount of the credit is equal to the customer's share of the output over any single fiscal year during the rate period, multiplied by $/MWh credit provided in table RO-1.

   New Renewable Facility Credit (other than Utility Scale Wind) = Customer share of generation in fiscal year x $/MWh credit from table RO-1.

NOTE: Credit for New Utility-scale wind projects will be calculated differently than other New Facilities because the Council updated project cost estimates for New Utility-scale wind projects. The revised cost estimate for Utility-scale wind increased by nearly 100 percent resulting in a more than 7-fold increase in the $/MWh credit.

If the Council's new cost estimates were used as the sole basis for the rate credit for Utility-scale wind projects (as occurs with other New Facilities), BPA would create a windfall for purchasers of less expensive projects. (The difference between the actual costs and the Council's cost estimates can be significant.) Because of the $6 million dollar cap on total renewable claims and because of the large amount of wind being developed in the Region, BPA decided to change the way utility-scale wind credit is calculated.

The credit for New and Existing Utility-scale wind projects will be based on actual Project Costs, not the Council's cost estimate. The Council's cost estimate for New Utility-scale wind will be used to create the cap. Both the cap and the Council's estimate are posted in table RO-1.

b. **Existing Renewable Energy Facilities:** It is BPA's objective to encourage the development of new incremental renewable energy facilities and activities. Therefore, the credit for existing facilities cannot exceed that of new facilities.

Existing facilities will be eligible for credit on energy generated during the entire rate period. Because of the 3-year rate period, the credit for Existing Facilities is capped at 33 percent of the credit given to New Facilities using the same renewable energy source. The amount of the $/MWh credit for generation from Existing Facilities will be based on the customer's share of actual generation during the rate period, the type of facility, and the difference between the Project Costs during the year the claim is being made and the Proxy for Avoided Cost, not to exceed the $/MWh caps posted in table RO-2 (capped at 33 percent of the cap for New Facilities). Credit will only be given for metered generation during the rate period.

Credit = [Energy Costs at the busbar for the year in which the claim is being made + Integration Costs for the year in which the claim is being made] – [Proxy for Avoided Cost] x MWh. This amount is not to exceed the cap posted in table RO-2.

1. Third party verification (audit) of Project Costs for the year the claim is being made and third party verification of actual generation should be included in the October 31 annual report to BPA. BPA may grant case-by-case extensions for audit reports.
2. The existing facility must qualify under sections 9.5 and 9.6.
3. No credit will be given to existing solar energy facilities.

Table RO-1: New Renewable Facility Credit

New Facilities Total Credit for each Facility = (Capacity) x (Capacity Factor) x (New Facility Credit). If claiming actual generation, disregard capacity factor and use metered data. If claiming forecasted generation use the nameplate rating to determine capacity and Capacity Factors posted below. Credit should not exceed the resource-specific caps listed below. *Credit for 1 year of Generation.*			
Resource type *(project size)*	**Project Cost (Proxy) ($/MWh)**	**Credit ($/MWh)[1]**	**Capacity Factor [2]**
Biogas [3]	51.00	8.50	90%
Geothermal [4]	67.84	25.34	92%
Hydro [5]	48.46	5.96	80%
Micro hydro *(<1 MW)* [4]	79.00	27.00	58%
Landfill gas *(> 2 MW)* [3]	42.00	0.00	80%
Landfill gas *(less than or equal to 2 MW)*[6]	50.00	7.50	90%
Wind *(less than or equal to 25 kW (no Tx))*[3]	270.00	27.00	14%
Wind *(less than or equal to 10 MW but > 25 kW)* [7]	73.00	27.00	30%
Wood/Forest residue (wood only, not cogen) [3]	68.00	25.50	90%
Wood/Forest residue (cogen) [3]	51.00	8.50	90%
New Utility–Scale Wind Credit = (Project Cost – Proxy for Avoided Cost) x (Capacity) x (Capacity Factor). If claiming actual generation, disregard capacity factor and use metered data. If claiming forecasted generation, use the nameplate rating to determine capacity and the Capacity Factor posted below.			
Wind - utility scale *(+1 0 MW)* [8]	80.00	27.00	30%
Solar			
	Project Cost (Proxy) ($/MWh)	**Credit ($/unit)**	**Capacity Factor**
Solar water heaters, collectors>31 sq ft of evacuated tubes with equivalent output [4] ($ credit per installation, based on capacity)	117.00	500.00	NA
Photovoltaic (PV) Credit in $/kW [4] ($ credit per kW)	290.00	500.00	NA

1 New Resource Credit ($/MWh) = (Project cost as posted in table 1) - (Proxy for Avoided Cost). NTE $27/MWh. $27/MWh Cap reflects the FY07 value of 20 years of CO^2 offsets. (Northwest Power and Conservation Council).

2 Capacity Factors taken from the same sources as the cost estimates. Actual metered generation should be used if the project is in commercial operation.

3 Project Cost is the FY07, 20-year levelized cost of shaped and delivered energy (see Council Memo dated August 10, 2005). Note because project costs for this resource is less than market, it is not eligible for the CRC.

4 Cost data derived from unsolicited proposals submitted to BPA and BPA project files.

5 Estimate based on one project.

6 Costs derived from Energy Trust of Oregon "Sizing and Characterizing the Market for Oregon Biopower Projects" April 2005.

7 Costs derived from an Energy Trust of Oregon report and from Northwest Power Planning and Conservation Council staff analysis. ETO report: "A Comparative Analysis of Community Wind Power Development Options in Oregon" July 2004.

8 Project Cost is the FY07, 20-year levelized cost of shaped and delivered energy (see Council Memo dated July 13, 2006).

Table RO-2: Caps on Credit for Existing Renewable

Resource type	Cap ($/MWh)
Biogas	2.83
Geothermal	8.45
Hydro	1.99
Micro hydro *(< 1 MW)*	9.00
Landfill gas > 2 MW	0.00
Landfill gas less than or equal to 2 MW	2.50
Wind less than or equal to 25 kW	9.00
Wind less than or equal to 10 MW	9.00
Wind - utility scale (+10 MW)	9.00
Wood/Forest residue (wood only, no Cogen)	8.50
Wood/Forest residue (Cogen)	2.83
Solar water heaters, collectors>31 sg ft	no credit available
Photovoltaic (PV)cCredit in $/kW	no credit available

Table RO-3: Renewable Credit Proxy Values

	($/MWh)
Proxy for Avoided Costs =	
Avg of FY07 Flat PF & FY07 IOU Settlement Flat-Block Mid C mkt price [1]	**42.17**
Cap =	
Proxy for present year value of a 20-year CO^2 offset [2]	**27.00**

[1] The 2007 forward flat block Mid-C market price used in the residential exchange settlement is equal to $58.46/MWh and the FY 2007-2009 flat PF preference rate is equal to $25.87/MWh, giving a Proxy for Avoided cost of $42.17/MWh Value will be fixed at FY07 levels not adjusted for inflation or variations in market prices.

[2] Cap based on NW Power and Conservation Council estimates of the average 2007 current year dollar value of a CO^2 offset. Any credit below $27/MWh could be considered cost effective if the CO^2 credits are not sold. CO2 value will be fixed at FY07 levels not adjusted for inflation.

9.18 Effects on Net Requirements Load

Adjustments to the customer's Subscription contract and Net Requirements Load will be independent of credit given under the RO. No adjustment to net requirements load is necessary for REC and EPP purchases.

9.19 Duration of the RO and Renewable Energy Purchases

The RO can only be applied to activities undertaken during the rate period and energy generated during the rate period, except for special considerations given to new facilities energized between January 1, 2006, and December 31, 2009 (see section 9.5).

9.20 Administration

Applications, notifications, inquiries, and other matters related to the RO for renewable energy resources should be directed to the following address:

Bonneville Power Administration
Attn: Debra Malin, MS PTL-5
P.O. Box 3621
Portland, Oregon 97208
Phone: (503) 230-5701
E-mail: djmalin@bpa.gov

9.21 Optional Pre-Application

At any time, a customer may submit a Pre-Application containing the information described below to obtain a preliminary and conditional determination of a renewable energy facility's or activity's eligibility for the RO:

(Note: Pre-Application is optional, but the October 31 report will need to include this information regardless of whether a Pre-Application is submitted.)

a. Name and type of facility or activity or other official designation

b. Location and address of the facility and type of renewable energy source

c. Name, address, and telephone number of a point of contact to respond to questions or requests for additional information

d. A clear statement of how the renewable energy facility or activity satisfies the eligibility criteria

e. If the customer intends to purchase power from a power marketer or enter into an arrangement with another customer, a description of the purchase or arrangement

f. Other applicable information as required elsewhere in this chapter

9.22 Reporting requirements

a. Customer request for Renewable funds and the pro rata reduction: Due to the $6 million dollar annual cap on total annual renewable rate credit, BPA requires customers to request total annual renewable credit claims by July 15 of each year for the following fiscal year. If total utility requests exceed $6 million dollars in any year, all requests will be pro rata

reduced for that year so that the $6 million dollar cap is not exceeded. Note: Small (<7.5 aMW load) customers and federal customers will not be pro rata reduced but their requests will count against the $6 million dollar cap. In the event of a pro rata reduction, BPA will notify customers of the amount their request was pro rata reduced by no later than August 15 of each year.

Due to the increased volume of renewable claims against the RO, BPA will no longer allow adjustments to renewable requests (claims) after the pro rata reduction. The dollar amount remaining after the pro rata reduction will be considered a final number and the requesting utility has an obligation to spend this amount of money on renewables before the end of the rate period. Customers have the option of rolling forward that portion of their July 15 request which was pro rata reduced (e.g., Customers may request it again in the following fiscal year).

The amount reduced via the pro rata reduction should be spent on conservation, rolled forward as a renewable request in the next year, or the customer can opt out of the program.

Renewable requests made under this section should be sent to the address shown in section 9.20 by July 15 of each year of the rate period.

b. **Annual Reports to BPA:** Customers must submit annual reports to BPA validating renewable claims made under the RO. Annual reports should use the PTR System and should be submitted by no later than October 31 of each year for the proceeding fiscal year's renewable claim. Annual reports should be sent to the address shown in Section 9.20

Due to increasing pressure on the $6 million cap, BPA will no longer accept or approve additional requests for renewable credit for FY 2009 if renewable claims from FY 2007 and FY 2008 have not been substantiated via the annual October 31 reports. This is consistent with reporting required for conservation under section 4.. Because the RO option amounts for FY 2009 will be published in August 2008, which is prior to the FY 2008 reports being filed, it may be necessary for BPA to invoice customers who are not allowed a FY 2009 RO allotment because they did not fully substantiate their FY 2007 and FY 2008 RO funds.

October 31 reports to BPA validating pro rata reduced July 15 renewable rate credit requests (claims) should contain the following information to be approved:

1. A statement of the annual and monthly metered Net Electric Energy generated by the renewable energy

facility during the previous fiscal year and claimed for credit by the customer.

2 A statement showing how the customer's renewable rate credit claim was derived and computed.

3. Applicable information required elsewhere in section 4, including third party verification: BPA recognizes it may be difficult to obtain third party verification by October 31 for the previous fiscal year and may grant extensions for third party verification on a case-by-case basis.

4. RD&D and Donations: An Application for Certification for a qualified RD&D activity or eligible donations must contain a description of the qualified facility or activity, verification that applicable criteria have been met, and a copy of the invoices that are the basis for the customer's claim for credit (if applicable).

5. Purchases from BPA: The customer will reference the contract, the BPA product, the amount of the purchase (kWhs), and how much of the rate credit is being applied to this purchase in the annual October 31 report.

If a customer has yet not yet completed the spending for its RO allocation prior to the end of a fiscal year, the utility must submit its annual report with an explanation as to why the spending has not yet been completed and share the customer's plans to use the RO funds.

9.23 True-up for Generation-Based Claims

Due to the $6 million dollar cap on renewable claims, customers making RO claims on new and existing facilities will be required to make claims based on actual generation. True-ups will only be accepted for New Facilities that cannot complete 12 consecutive months of actual generation prior to the end of the rate period, but are energized prior to December 31, 2009. (These facilities use forecasted generation rather than actual generation.)

Customers that need to use forecasted generation for all or part of a reporting year will need to file a true-up report with BPA. After a facility completes 12 consecutive months of generation, the utility will need to file a true-up comparing previously reported forecast generation with actual generation for that forecasted period. This true-up will be used to determine if the full credit has been earned or if a refund is due BPA. The true-up report will be due 30 days after the completion of the first 12 months of generation, but in no event should it be received after January 31, 2011.

For example, if a project starts generating on July 1, 2009, in its annual report the utility will report actual generation from July 1, 2009, through September 30, 2009, and forecasted generation from October 1, 2009, through June 30, 2010. The true-up report, comparing forecasted vs. actual generation for October 2009 – June 2010, will be due on July 31, 2010.

9.24 Procedures for Processing Reports and Applications

BPA will process Pre-Applications and Annual Reports and notify the customer of its determination within 60 days of receipt of the Pre-Application and 30 days of receipt of the Application for Certification.

1. Notice to applicant — If an application meets the requirements of the RO, BPA will issue a written notice to the applicant.
2. Disqualification — If an application does not meet the requirements of the RO for renewables or if some of the kWh claimed in the application are disallowed as unqualified, BPA will issue a written notice denying the application in whole or in part, with an explanation of the basis for denial.
3. Appeal of determination — A customer may appeal a decision within 60 days. Appeals should be sent to the address shown in section 9.20.

9.25 Rules for Pooling Renewables

A project or proposal from a pooling entity is subject to the same criteria, standards, and procedures as any other entity. The pool must comply both on an individual and aggregate basis.

Renewable Pooling Requirements

a. Pooling utilities are responsible for reporting their own individual claims and semi-annual reports. Claims are subject to applicable reporting requirements outlined elsewhere in this document.

b. The pooling organization will provide an annual summary report to BPA. The report shall document the claims of all pooling participants.

c. If the pooling entity has a mix of customers using different conservation or renewable approaches, the pool must keep customers using different approaches separate for reporting purposes.

Examples

Existing Utility Scale Wind

Big City Energy wants to use its rate credit to offset the cost of purchasing 20 MW of energy from the Big Wind Project (energized in 2001). The busbar CY 2007 power purchase price is $44/MWh, their contracted integration charges are $9/MWh. The project generated (and Big City Energy purchased) 40,000 MWh in FY 2007, 60,000 MWh in 2008 and 50,000 MWh in 2009. This project would be classified as an Existing Facility and as a utility-scale wind project.

$/MWh Credit = [(Contracted Power Cost) + (Contracted Integration Charges)] - (Proxy for avoided cost).

NTE 33 percent of the applicable New Facility credit.

$/MWh Credit = [($44/MWh) + ($9/MWh) - ($42.17/MWh) = $11.83/MWh.

However, $11.83/MWh >33 percent of the credit given to New Utility Scale Wind facilities (e.g. Existing Utility-scale wind projects are capped at $9.00/MWh). Therefore, the $/MWh Credit for the purchase of energy from the Big Wind Project is capped at $9.00/MWh.

Total Credit = (Energy Generated) x ($/MWh Credit)

Total Credit = (150,000 MWh) x ($9.00/MWh) = $1,350,000

Big City Energy can submit a request for a claim for $1,350,000 anytime during the rate period, but the amount claimed in one year cannot exceed their annual CRC credit, and the claim will need to be substantiated in the next October 31 report.

Big City Energy must have the output and costs independently certified by a CPA and include these verification reports in their October 31 annual report to BPA for the year in which they make the claim.

New small wind project

During the FY 2007-2009 rate period PUD #1 signs an agreement to purchase a wind project within their service area. The Project is contracted to be energized by December 31, 2009. Project consists of two 1.5-MW turbines. This is a New Wind project with a capacity less than or equal to 10 MW but greater than 25 kW.

Credit = (Capacity) x (Capacity Factor) x ($/MWh Credit) x (hours/year)

Credit = (3 MW) x (0.30) x ($27/MWh) x (8,760) = $212,868. ($27/MWh = Cap)

PUD #1 can submit a claim for this project anytime during the rate period, but must include in their October 31 annual report verification that they have executed a power purchase agreement during the rate period and that contractual incentives are in-place to ensure the project is energized by December 31, 2009. By no later than January 15, 2010 PUD #1 must also

demonstrate that the project was energized by December 31, 2009. If the project fails to come on-line by December 31, 2009, the PUD must repay BPA for the credit claimed for this project plus interest. If the project was energized after October 1, 2009, PUD#1 will need to include forecasted energy in their annual report and a true-up report will need to be provided after the first 12 months of consecutive operation.

If PUD #1's request is reduced due to a pro rata reduction in 2007 or 2008, the PUD can roll the portion of their project credit forward into the next FY. There will be no ability to roll forward in 2009.

Although the PUD can claim the renewable project during any year, they must substantiate the claim in the next October 31 annual report. PUD #1 must retire the RECs generated by this project during the 2007-2009 rate period within their service area. PUD #1 cannot simultaneously claim energy generated by their wind project under the rate credit program and sell the attributes or Renewable Energy Certificates (RECs) separately.

See table RO-1, section 9.16.

New utility-scale wind project with self-supplied integration services:

East Side Electric signs a contract to purchase 60 percent of the output of the 50 MW White Eagle wind project. The busbar cost of the energy is $48/MWh and integration costs are $20/MWh.

The project is scheduled to be energized in September 2007. The White Eagle project would be classified as a New utility scale wind project.

Credit = ((Project Costs) – (Proxy for Avoided Cost)) x (Capacity) x (Capacity Factor) x (hours/year)

Credit = [($48/MWh + $20/MWh) - ($42.17)] x (50 MW x 0.60) x (0.30) x (8760) = $2,036,437.

Credit = $25.83/MWh

East Side can submit a request for a claim for this project anytime during the rate period, but the amount claimed in any one year cannot be greater than the customer's total CRC for that year. If East Side's total eligibility is only $1,000,000/year, then this utility must submit their request for a claim for this project over several years rather than in a single year.

For example, it would be permissible for East Side to report only a portion of one year's worth of output received to satisfy the CRC requirements for FY 2007. East Side could then apply the remaining portion of that year's production from White Eagle to satisfy all or a portion of the CRC requirements for FY 2008. If there was any remaining production, it could be applied to CRC requirements for FY 2009.

East Side must verify, via a third party audit, generation amounts, purchase price, and justification for their near-term opportunity costs associated with self-supplied integration. The audit report and the justification for integration costs should be supplied to BPA in their October 31 annual report

for the year in which they made the claim (e.g., report due by October 31, 2007, for FY 2007). This utility may want to keep the busbar energy and integration costs confidential, in such case they should arrange for a confidentiality agreement with BPA.

Generation exceeding the requested claim can be rolled forward and claimed in the following year. (FY 2009 generation cannot be rolled forward to FY 2010.)

East Side must retire the RECs generated by their portion of the White Eagle wind project during the FY 2007 – 2009 rate period within their service area. East Side cannot simultaneously claim energy under the rate credit program and resell the associated RECs to another utility or marketer.

See section 9.16(a).

RECs

Jones County PUD purchases 50,000 MWh of Calendar Year 2009 RECs from East Side's portion of the wind Project. Jones paid East Side $5/MWh for the RECs and submits a claim to BPA for $250,000. The calculations are correct but BPA denies Jones' claim because:

a) BPA determined that East Side also submitted a claim on the same portion of project.

b) Some of the RECs will be generated after the end of the rate period. Only RECs generated during the rate period are eligible. Jones will have to use the amount of rate credit they claimed for these RECs on another eligible Renewable activity before the end of the rate period. The other utility making a claim on this project may be required to repay BPA for their claims made on this project.

See section 9.9.

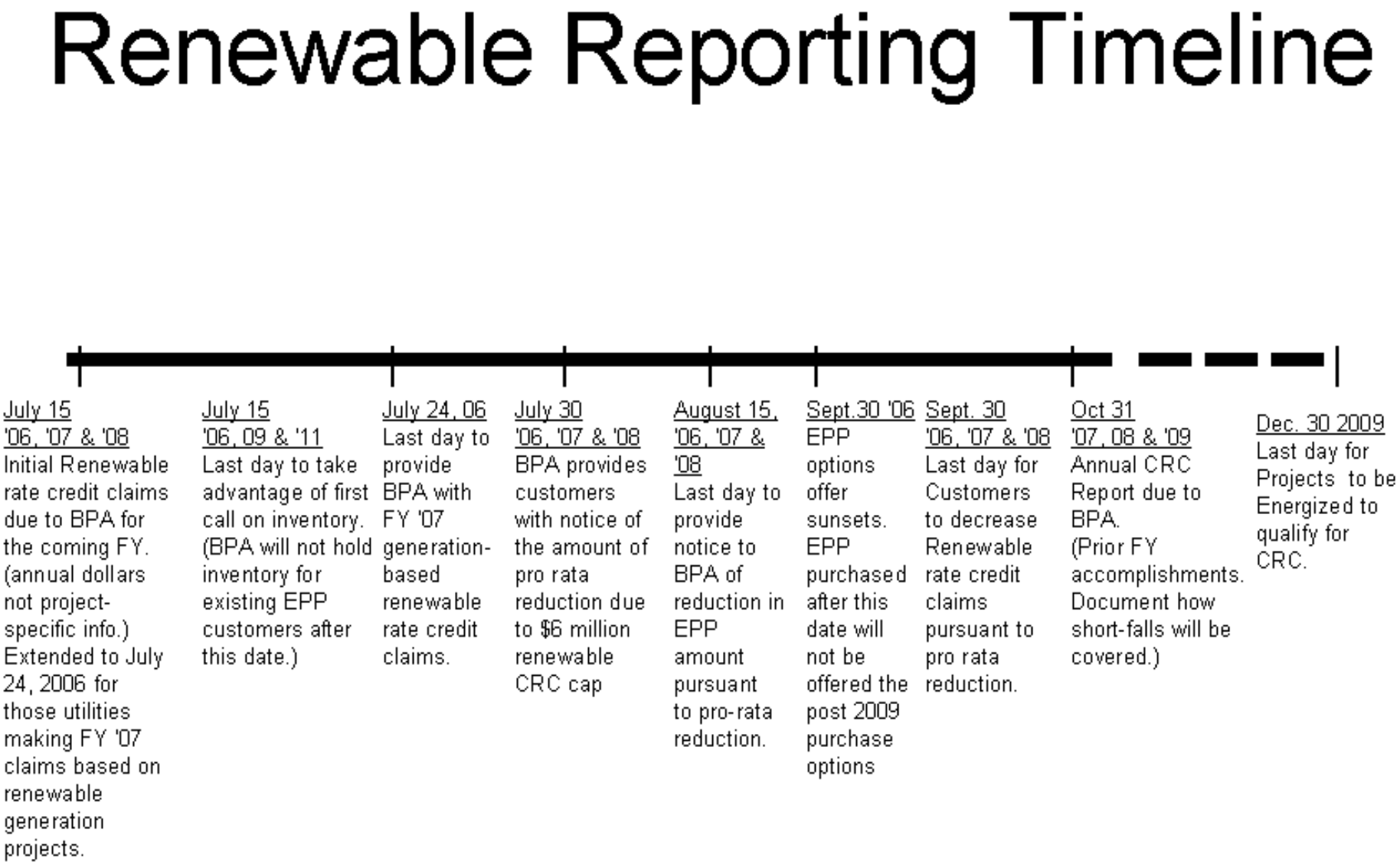



Figure RO-1: Renewable Reporting Timeline