

Proposed Changes to the Renewable Rate Credit Program

This document describes the proposed implementation guidelines for the renewable option that will be part of BPA's Conservation Rate Credit Program for fiscal years 2007-2009. It includes a new section that will replace section 5 of the current Conservation and Renewables Discount Implementation Manual. This proposed section will become part of the new Post 2006 Conservation Program Implementation Manual for the FY 2007-2009 rate period. The rate components of this program will be established and made final when BPA's wholesale power rate-setting procedure is completed and approved. BPA is seeking comments on these proposed changes for the renewable option.

Background - Key Changes to the Renewable Rate Credit Program

Funding Level Capped. In response to broad customer support, BPA will continue to offer a combined conservation and renewable rate credit program during the 2007-2009 rate period. Over the next rate period, BPA plans to balance its efforts to achieve the conservation targets set by the Northwest Power and Conservation Council (Council) with customer requests to include a flexible renewable rate credit as part of the rate credit program. One result of the decision to provide customer flexibility in spite of the increased conservation targets is a proposed limit or cap on annual renewable claims made against the conservation rate credit program. If too much of the rate credit is consumed by renewable claims, there will not be sufficient funds to achieve the conservation targets (unless rates are raised). Therefore, the renewable claim limit will assure sufficient funds are available to achieve conservation targets.

In order to meet the conservation targets, provide flexibility and prevent further rate increases, BPA will cap total renewable rate credit claims at \$6 million per year. The \$6 million/year cap was chosen because it roughly equals average renewable rate credit claims made during FY 2001-2004 and allows customers to continue with approximately the same level of renewable spending as they have had historically. Another change related to the cap: the renewables program budget will annually repay the conservation program for renewable claims made against the conservation rate credit program.

There are several ways to limit renewable claims to \$6 million/year (for example, on a first come, first served basis, lottery, customer class preference, etc.). BPA believes the most equitable way to limit total annual renewable claims to \$6 million/year is by applying an annual pro rata reduction to all renewable claims if total claims exceed \$6 million in any single year. BPA will exempt small utility customers (7.5 aMW load or less) and federal customers from the prorated reduction since these customers generally have less flexibility in their budgets and would be most impacted by a pro rata reduction.

New Renewable Energy Facilities redefined and eligibility limited to one year of production. Consistent with the objectives listed in section 5.2, BPA is proposing to change the definition of "New Renewable Energy Facility" to those facilities energized during Fiscal Years 2007-2009, rather than leaving the bright line for "New" at May 1, 1999.

BPA considered continuing the existing production-based credit using actual generation, with higher amounts going to New Facilities than to Existing Facilities. However, the short rate period, the \$6 million cap, and ensuing pro rata reductions combine to create risk/uncertainty for all, especially for New Facilities energized later in the rate period. If we choose to continue with the existing production-based credit, we would need to significantly reduce the amount of credit awarded to Facilities to prevent the \$6 million dollar cap from being exceeded in years two and three of the rate period (due to the additive/cumulative effects of more generation coming on-line over time).

A generation-based production credit for both Existing and New Facilities would create an advantage for Existing Facilities and is inconsistent with the objectives stated in section 5.2. To offset the advantages Existing Facilities have over New Facilities, BPA is proposing to set the credit for New Facilities high enough to offset most of the costs *for the first year of production* – regardless of whether the New Facility is energized the first or last year of the rate period. In addition, more flexibility and deference will be given to New Facilities compared to those that are already operating.

New Facility Credits will be fixed at the 2007 level for the 3-year rate period, with no adjustments for inflation or changes in the Flat Mid-C market price.

Existing Facilities redefined and the Existing Facility credit based on project-specific generation and integration costs. BPA observes there are potential inequities for accessing the rate credit between Existing Facilities and New Facilities. For example, given the cap, Existing Facilities could consume all of the \$6 million renewable rate credit. On the other hand, disallowing Existing Facilities from the rate credit program would penalize early adopters. Allowing Existing Facilities to be credited at a fixed fraction of the New Facility rate was also considered but eliminated because some Existing Facilities are below market. Allowing these Existing Facilities to collect on the credit would allow some utilities to make money off of the rate credit program. This did not seem equitable, given the cap and rate pressure. BPA would like to keep credit claims on Existing Facilities to a minimum because every dollar going toward Existing Facilities is one less dollar going toward New Facilities. BPA believes that the most equitable way to treat Existing Facilities is to award credit based on Project Costs, and to cap that credit at an amount equivalent to what the facility would receive if it were a New Facility. Existing Facilities can claim credit for energy produced during all three years of the rate period rather than one year (New Facilities); therefore, the Existing Facility production credit will be capped at 33 percent of the appropriate New Renewable Energy Facility credit.

Existing Facility Credit will be determined by comparing Project Costs against the Proxy for Avoided Costs. Project Costs will be limited to independently certified FY 2007 contracted energy costs at the bus bar, and independently certified FY 2007 contracted integration charges (if applicable). Existing Facility Credits will be fixed at the 2007 level for the duration of the 3-year rate period without adjustments for inflation, changes in Project Costs, or market prices.

Link to Northwest Power and Conservation Council's Cost-Effectiveness. To assure cost-effectiveness and consistency with the Council's 5th Power Plan, the renewable rate credit will be capped at \$27/MWh (except solar facilities). The \$27/MWh figure reflects the value of 20 years

of CO² offsets on a net present value basis. This level of funding can be considered cost-effective as long as the Environmental Attributes are retired in the utility customer's service area.

Solar. Many customers asked that BPA include solar in the renewable rate credit because it was excluded from the conservation rate credit. BPA considered the fact that solar water heaters and solar PV prices continue to drop and conversion efficiencies continue to improve. BPA is proposing to include new solar water heaters and new PV installations in the renewable rate credit and to base their credit on a fraction of the value of the energy generated during the life of the project, rather than comparing to the Proxy for Avoided Cost.

Proposed Section 5 of the Post 2006 Conservation Program Implementation Manual (Renewables)

5. Criteria for Renewable Energy Resources Eligible for the Renewable Option of the Conservation Rate Credit (Renewable Rate Credit (RRC))

5.1 Purpose and Scope

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

5.2 Objectives of the Renewable Rate Credit:

- a. To encourage the development of new Incremental Renewable Energy Facilities and Activities in the Pacific Northwest.
- b. To maximize incremental renewable generation.

5.3 Definitions

Alternative Renewable Energy (ARE). One of BPA's renewable energy products for which BPA charges a Green Energy Premium. ARE is equivalent to Environmentally Preferred Power except that none of the Green Energy Premium is directed toward the Bonneville Environmental Foundation.

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 MWh and 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. (Reference rate case documentation when final.)

Existing Renewable Energy Facility (Existing Facility) is a Renewable Energy Facility that is energized prior to January 1, 2006, but after May 1, 1999.

Expansion of an Existing Facility means an incremental expansion of generating capacity due to the installation of additional power-generating equipment at an existing power project site.

- 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.
- Replacement or modification of existing equipment that results in increased power generation will be considered generation, and qualifies for the RRC if it is metered independently from the existing facility and meets the definition of a New Renewable Energy Facility.

Hybrid Facilities. That fraction of a Renewable Energy Facility that uses a Renewable Energy Source to generate electricity.

Incremental Renewable Energy Facilities and Activities. Those activities and resources beyond that required by law. 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 RRC.

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 is energized after January 1, 2006, including the Expansion of an Existing Facility. 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 Pacific Northwest Electric Power Planning and Conservation Act of 1980, Public Law 96-501, 16 U.S.C. 839.

Project Costs. Project costs will be limited to independently CPA-certified Fiscal Year 2007 contracted energy charges at the bus bar and independently CPA-certified Fiscal Year 2007 contracted integration charges. Credits will be fixed at the 2007 level for the duration of the 3-year rate period, and not adjusted for inflation, generation costs, or changes in power costs or market prices.

Proxy for Avoided Cost. The simple average of BPA's FY 2007 flat Priority Firm (PF) power rate and the 2007 Forward Flat-Block Mid C market price used in the investor-owned utility settlement.

Renewable Energy Certificates (RECs). Environmental Attributes from qualifying Renewable Energy Facilities. One REC represents the Non-Power or Environmental Attributes made available by the generation of 1 MWh from one Renewable Energy Facility.

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 Source.

Renewable Energy 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:** Electricity generated from combustion of:
 - the organic, nonfossil-based portion of municipal solid waste,
 - energy crops,
 - agricultural residues,
 - untreated mill or forest residues, or
 - Biomass-derived energy from Hybrid Facilities, not including energy derived from fossil fuels.
 - 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 Northwest Power and Conservation Planning Council.
- **Landfill Gas:** Combustion of gases derived from landfills.
- **Ocean:** Generation of electricity from wave thermal gradient or tidal forces. Ocean-based Renewable Energy.
- **Solar:** Electricity generated from solar heat and light. Includes solar photovoltaic systems (PV) and solar water heaters.
- **Wind:** Electricity generated from wind.
 - Utility-Scale Wind projects have a total installed capacity greater than or equal to 10 MW.
 - Community-Scale Wind projects are those with a total installed capacity of less than 10 MW.

5.4 General Renewable Rate Credit Requirements

- Only Incremental Renewable Energy Facilities and Activities are eligible for the Renewable Rate Credit.
- The Renewable Rate Credit is only available during fiscal year 2007 through fiscal year 2009. Unlike Conservation, there is no early start for renewable rate credit claims.
- The same reporting software is required for Renewable Rate credit claims as for claims made under the conservation rate credit.

5.5 What is a Qualified Renewable Energy Facility

To be eligible for the RRC, a Renewable Energy Facility must satisfy the following criteria:

1. In order to qualify for the RRC, the energy must be generated by a qualified Renewable Energy Facility as defined in section 5.3.
2. **Time of first use** — The facility must begin commercial operation no earlier than May 1, 1999, and no later than September 30, 2009. Time of first use is May 1, 1999, for existing facilities and January 1, 2006, for new facilities.
 - a. New Facilities energized after September 30, 2009, may qualify for the RRC if:
 1. The claiming utility is contractually committed to purchase the output of the New Facility during the rate period (Fiscal Years 2007- 2009), and
 2. The developer of the New Facility is contractually obligated to energize the Facility no later than December 31, 2009. The customer must provide BPA with signed documentation demonstrating: a) the customer is contractually obligated to purchase the output of the Facility and b) that the New Facility will be energized no later than December 31, 2009, and c) that the Facility was energized prior to December 31, 2009, or repay BPA for the rate credit claim based on the Facility, plus interest.
 - b. Existing Renewable Energy Facilities that were on-line prior to May 1, 1999, shut-down for an extended period of time but subsequently upgraded and restarted, are eligible for RRC if the fair market value of the facility before the upgrades is less than 20 percent of the new total fair market value.
3. **Location** — Renewable Energy Facilities must be located in the Pacific Northwest, with the following three exceptions:
 - a. The currently permitted Wyoming Wind Project at Foote Creek Rim and Simpson Ridge in Carbon County, Wyoming,
 - b. Projects shown by the applicant to effectively displace operation of regional nonrenewable generation resources (subject to BPA's approval), or
 - c. The project or a portion of the project serves load within the Pacific Northwest (subject to BPA's approval).

5.6 Metering Requirements

Except for solar (PV and solar water heaters) and RD&D projects, 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.

5.7 Power Purchases from Power Marketers

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

- a. The underlying resources meet the eligibility requirements for Renewable Energy Facilities; and
- b. The customer can supply documentation verifying the renewable energy resource eligibility; the amount and term of the purchase, attestation that the Environmental Attributes have not been sold or claimed elsewhere; and, if the claim is associated with an Existing Generation Facility, the generation and integration costs as defined in section 5.17(2). The amount of the RRC available for each type of underlying Renewable Energy Facility is specified in Tables 1 and 2 in section 5.17.

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 RRC Report. If the Environmental Attributes are sold into the customer's green pricing program, revenues from the Attribute sales and the pricing program must be reinvested in the green pricing program to qualify for the RRC.

5.8 Transfer of RRC 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 RRC to the output.

For example, Customer A could sign a power purchase agreement with a developer for 15 megawatts (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 RRC. 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 rate credit claim.

Customers may also transfer RRC claims to other BPA customers by selling the attributes or RECs generated by eligible Renewable Energy Facilities to other BPA customers. See section 5.8 for details.

5.9 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) or Alternative Renewable Energy (ARE); section 5.10 addresses EPP and ARE.

RECs are eligible for RRC, provided the following conditions are met.

Conditions for RECs to qualify for the RRC:

- a. Megawatt-hours cannot be claimed twice under the RRC. RECs associated with renewable *energy* claimed elsewhere under the RRC are not eligible for additional RRC 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 RRC claim anytime during the rate period.
- b. Only RECs which are retired within the purchasing utilities service area are eligible for the RRC program. RECs resold in a premium green pricing program will be eligible for RRC credit if the revenues from both the green pricing program and the RRC credit are re-invested in the green pricing program.
- c. The facility generating the RECs must be a Renewable Energy Source as defined in section 5.3.
- d. The facility generating the RECs must meet the criteria provided in section 5.5.
- e. The output of the generating resource, from which the RECs originated, is metered. See section 5.6 for meter requirements.
- f. The RRC 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) a guarantee that an independent annual audit will be completed to verify/certify purchase price. Verification of REC ownership from the Western Renewable Energy Generation Information System can be used in lieu of (1) and (2) above.
- g. RECs can only be claimed in the year in which they are generated.
- h. RRC credit amount: Payment scale is the lesser of the appropriate amounts listed in Table 1 or Table 2 (section 5.17) or the purchase price of the RECs. Proof of purchase price must be verified via audit under section 5.9 (f)(3).

5.10 Renewable Purchases from BPA

BPA currently offers two types of renewable *energy* products and one REC product. The renewable energy products are Environmentally Preferred Products (EPP) and Alternative Renewable Energy (ARE).

EPP and ARE: BPA will reinvest the Green Energy Premiums associated with these products in New Renewable Energy Facilities or activities. Therefore, 100 percent of the Green Energy Premium associated with EPP and ARE are eligible for the RRC.

RECs: The amount of the RRC for BPA's RECs will be 100 percent of the premium charged for this product.

Customers are required to retain and retire within their service territory the environmental attributes associated with EPP, ARE, or RECs purchased from BPA when claiming such purchases on their semi-annual RRC Report. If the Environmental Attributes are sold into the customer's green pricing program, revenues from the Attribute sales and the pricing program must be reinvested in the green pricing program to qualify for the RRC.

5.11 Third Party Blended Renewable Resource Products

A customer can receive the RRC 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 RRC. The appropriate "New" credit will be given to the New portion of the product for one year of estimated generation (see section 5.17.1). The Existing portion of the blended product will be given the appropriate credit for Existing Renewable Energy Facility(s) (section 5.17.2). Renewable energy claimed elsewhere under the RRC is not eligible for additional RRC 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 on their annual RRC Report.

5.12 Effects on Net Requirements Load

Net requirements calculations are part of the Subscription contract. For purchases of renewable output from any third party or from BPA under the Firm Power Products and Services (FPS) rate schedule, the net requirements in the customer's subscription contract will be adjusted according to the customer's subscription power sales contract, Exhibit C, section 4(a), consistent with BPA's section 5(b)/9(c) policy.

No adjustment to net requirements load is necessary for REC, EPP, and ARE purchases.

5.13 Donations

Donations to 501c(3) non-profit organizations promoting renewable resource development in the Pacific Northwest are eligible for the RRC upon BPA approval. Examples of organizations which may qualify: Bonneville Environmental Foundation, Energy Trust of Oregon, Climate Trust, Last Mile Electric Coop, and Northwest Seed. 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 section 5 of this document. The receiving organization will provide BPA and the donating customer a report documenting use of the donated funds by no later than July 1 of each year. BPA reserves the right to audit the receiving organization. Donations are limited to 20 percent of the customer's total Conservation Rate Credit over the rate period. One hundred percent of the donated amount is eligible for the RRC.

5.14 Contributions to Qualified Research Development & Demonstration (RD&D) Activities

One hundred percent of the amount spent on qualified RD&D activities is eligible for the RRC; however, renewable RD&D claims cannot comprise more than 20 percent of the participating utility's total rate credit 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 RRC credits.

The RRC may be donated to pre-approved RD&D activities. BPA pre-approved RD&D activities include:

- The regional wind data collection program administered by Oregon State University; or
- The Regional Solar Radiation Data Center administered by the University of Oregon, or
- New Ocean-powered Renewable Energy Facilities.

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 Regional Technical Forum (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 world-wide-web, as well as local reporting mechanisms, before September 30, 2009.
3. The project falls under at least one of the activities listed in section 5.15 and not specifically excluded in section 5.15(e).

5.15 Eligible RD&D Activities

The following categories of activities potentially qualify for the RRC as research, development, and demonstration activities. Qualification will be determined using the criteria listed in section 5.16.

- 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. 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 application. Efforts to lower costs through increased production or mass purchase of commercial technologies are not considered to be research, development, or demonstration. Commercial technologies may benefit from the RRC on the basis of commercial energy production.

- f. Provision of information useful for the evaluation, siting, design, or operation of facilities using Renewable Energy Sources.

5.16 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 which are co-funded/co-sponsored are preferred. Co-funded amounts are excluded from the RRC credit.

5.17 Amount of the RRC

The amount of the RRC earned by eligible Renewable Energy Facilities is shown in Tables 1 and 2.

REC from projects claimed under this section must be retired within the customer's service area. If sold into a green pricing program, revenues from REC sales and the pricing program must be reinvested in the green pricing program to qualify for the RRC.

1. **New Renewable Energy Facilities:** The amount of the RRC earned by New Facilities will be based on the difference between the estimated energy costs for the New Facility (provided below in Table 1) and the Proxy for Avoided Costs (provided in Table 3) and capped at \$27/MWh. Credit will be earned for one year of production, regardless of whether the facility is energized in the beginning or the end of the rate period.
 - a. The amount of the RRC is equal to the capacity of the New Facility, the applicable credit posted in Table 1 multiplied by the appropriate Capacity Factor (also provided in Table 1).
 - b. The credit for New Facilities will be for one year of production.
 - c. The New Facility must qualify under sections 5.5 and 5.6.
 - d. Credits will be fixed at the 2007 level for the 3-year rate period, without adjustments for inflation or changes in market price for power.
2. **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 RRC earned by eligible Existing Facilities will be based on the generation and integration costs, the customer's share of the metered output, and the type of Renewable Energy Facility.

- a. The amount of credit allowed for Existing Renewable Energy Facilities shall be demonstrated by providing BPA with:
 - i. Independently certified (by a CPA) Calendar Year 2007 contracted power costs at the bus bar,
 - ii. Independently certified (by a CPA) Calendar Year 2007 contracted integration charges, and
 - iii. Verification that energy claimed was generated by the project during the FY.
- b. Costs will be limited to those defined in section 5.17(2)a and capped at 33 percent of the credit given to New Facilities using the same Renewable Energy Source.
- c. Credit will be given for metered generation during the rate period.
- d. $\text{Credit} = [\text{'07 energy costs at the bar power} + \text{'07 integration costs}] - [\text{Proxy for Avoided Cost}] \times \text{MWh}$.
- e. The Existing Facility must qualify under sections 5.5 and 5.6.
- f. No credit will be given to Existing Solar Energy Facilities.
- g. Credits will be fixed at the 2007 level for the 3-year rate period, and will not be adjusted for inflation or changes in market price.

Table 1 - New Renewable Facility Rate Credit

Credited for 1 year of Estimated Generation

Total Credit for each Facility = (Capacity) x (Capacity Factor as posted below) x (New Facility Credit).

Resource type	Proxy for Project Cost (\$/MWh) ¹	New Facility Credit (\$/MWh) ²	Capacity Factor ³
Biogas ⁴	51.00	8.50	90%
Geothermal ⁵	67.84	25.34	92%
Hydro ⁶	48.46	5.96	80%
Landfill gas > 2 MW ⁴	42.00	-0.50	80%
Landfill gas less than or equal to 2 MW ⁷	50.00	7.50	90%
Wind less than or equal to 25 kW (no Tx) ⁴	270.00	27.00	14%
Wind less than or equal to 10MW but > 25kW (Community wind) ⁴	73.00	27.00	30%
Wind-utility scale (+10MW) ⁴	46.00	3.50	30%
Wood/Forest residue (wood only, not cogen) ⁴	68.00	25.50	90%
Wood/Forest residue (cogen) ⁴	51.00	8.50	90%
		\$ credit per installation	
Solar Water Heaters, Collectors>35ft ² . ⁵	117.00	500.00	NA
Photovoltaic (PV) Credit in \$/kW ⁴	290.00	500.00	NA

¹ Project Cost is the FY 07, 20-year levelized cost of shaped and delivered energy (see Council Memo dated August 10, 2005).

Includes Federal Production Tax Credit and a \$4.41 value for RECs.

² New Resource Credit (\$/MWh) = (Project cost as posted in Table 1) - (Proxy for Avoided Cost). NTE \$27/MWh. \$27/MWh Cap reflects the FY 07 value of 20 years of CO² offsets. (Northwest Power and Conservation Council).

NOTE: PROXY FOR AVOIDED COST WILL CHANGE WHEN '07-'09 BPA RATES ARE SET DURING THE BPA POWER RATE CASE.

³ Capacity Factors taken from the same sources as cost estimates.

⁴ Cost obtained from Northwest Power and Conservation Council's resource analysis for the 5th Power Plan (Attached Appendix A). Community wind 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.

⁵ Cost data derived from unsolicited proposals submitted to BPA and BPA project files.

⁶ Estimate based on one project.

⁷ Costs derived from Energy Trust of Oregon "Sizing and Characterizing the Market for Oregon Biopower Projects" April 2005.

Table 2 - Existing Renewable Resource Rate Credit*Production-based credit for energy produced during the rate period.***Total Credit for each Facility =****(MWh generated over rate period) x [(FY 07 energy cost @ bus bar) + (FY 07 contracted integration costs)] - (Proxy for Avoided Cost)**

Resource type	Contracted Generation and Integration Costs (\$/MWh) ¹	Cap (\$/MWh) ²	Credit (\$/MWh) ³
Biogas	51.00	2.81	2.81
Geothermal	67.84	8.36	8.36
Hydro	48.46	1.97	1.97
Landfill gas > 2 MW	42.00	-0.17	-0.50
Landfill gas less than or equal to 2 MW	50.00	2.48	2.48
Wind less than or equal to 25 kW	270.00	8.91	8.91
Wind less than or equal to 10MW	79.00	8.91	8.91
Wind-utility scale (+10MW)	46.00	1.16	1.16
Wood/Forest residue (wood only, no Cogen)	68.00	8.42	8.42
Wood/Forest residue (Cogen)	51.00	8.42	8.42
Solar Water Heaters, Collectors>35 ft ²	NA	NA	NA
Photovoltaic (PV) Credit in \$/kW	NA	NA	NA

¹ Insert Project-specific costs here. Values presented are for illustrative purposes.

Costs are limited to independently (CPA) certified FY 07 energy costs at the bus bar and FY 07 integration charges.

² Cap is equal to 33 percent of credit allowed for New Facilities using the same Renewable Energy Source. See Table 1.³ Credit = [(FY 07 energy costs at the bus bar) + (FY 07 contracted integration costs)] - (Proxy for Avoided Cost). NTE Cap.**NOTE: Proxy for Avoided cost will change when the FY 07-09 rates are set in the BPA Power Rate Case.****Table 3 – Renewable Rate Credit Proxy Values**

Proxy	(\$/MWh)
Proxy for avoided costs =	
Avg of FY 07 Flat PF & FY 07 IOU Settlement Flat-Block Mid C mkt price ¹	42.50
Cap =	
Proxy for present year value of a 20-year CO ² offset ²	27.00
¹ Proxy value, for illustrative purposes, will be finalized when the FY 07 rates are set.	
Value will be fixed at FY 07 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.	
Value will be fixed at FY 07 levels not adjusted for inflation.	

Examples 1 & 2

Example 1

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 bus bar 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.

$\$/\text{MWh Credit} = [(\text{Contracted Power Cost}) + (\text{Contracted Integration Charges})] - (\text{Proxy for avoided cost})$. NTE 33 percent of the applicable New Facility credit.

$\$/\text{MWh Credit} = [(\$44/\text{MWh}) + (\$9/\text{MWh}) - (\$43/\text{MWh})] = \$10/\text{MWh}$.

However $\$10/\text{MWh} > 33$ percent of the credit given to New Utility Scale Wind facilities (capped at $\$1.16/\text{MWh}$). Therefore the $\$/\text{MWh Credit}$ for the purchase of energy from the Big Wind Project = $\$1.16/\text{MWh}$.

Total Credit = (Energy Generated) x ($\$/\text{MWh Credit}$)

Total Credit = (150,000 MWh) x ($\$1.16/\text{MWh}$) = $\$174,000$

Big City Energy can submit a claim for $\$174,000$ anytime during the rate period, but must have the output and costs independently certified by a CPA.

Big City must retire the MWh claimed under the rate credit program within their service area.

Example 2

During the FY 07-09 rate period PUD #1 signs an agreement to fund 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 Community Wind project with a capacity of < 10 MW.

$\text{Credit} = (\text{Capacity}) \times (\text{Capacity Factor}) \times (\$/\text{MWh Credit}) \times (\text{hours/year})$

$\text{Credit} = (3 \text{ MW}) \times (0.20) \times (\$27/\text{MWh}) \times (8,760) = \$141,912$ ($\$27/\text{MWh} = \text{Cap}$)

PUD #1 can submit a claim for this project's credit anytime during the rate period, but must demonstrate that the project was generating by December 31, 2009, and demonstrate that PUD #1 was financially obligated to purchase the project or its output during the rate period. 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.

It is to the PUD's benefit to submit this claim as soon as possible to mitigate the impacts of potential pro rata reductions. If claim is reduced due to a pro rata reduction in 2007 or 2008, the PUD can roll the portion of their claim which was reduced forward into the next FY. There will be no ability to roll claims forward in 2009.

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 community wind project under the rate credit program and sell the attributes or Renewable Energy Certificates (RECs) separately.

Examples 3 & 4

Example 3:

East Side Electric signs a contract to purchase 60 percent of the output of the 50 MW White Eagle wind project. The project is scheduled to be energized in Sept. 2007. The White Eagle project would be classified as a New utility scale wind project.

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

Credit = (50MW x 0.60) x (0.30) x (\$3.50/MWh) x (8760) = \$275,940

East Side Electric can submit a claim for this projects credit anytime during the rate period. As with Example 2, East Side should submit the claim as soon as possible, to mitigate impacts of potential pro rata reductions.

East Side must retire the RECs generated by their portion of White Eagle wind project during the FY 07-09 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.

Example 4:

Jones County PUD purchases 50,000 MWh of Calendar Year 2009 RECs from East Side Electric's portion of White Eagle wind Project. Jones paid East Side Electric \$5/MWh for the RECs and submits a claim to BPA for \$250,000.

BPA denies Jones' claim because: a) East Side Electric also submitted a claim on the same project. East Side was required to retire all RECs associated with energy claimed under the rate credit program within their service area. b) The cap for New Utility Scale Wind is \$3.50/MWh, which is less than \$5.00. The rate credit claim should have been for \$175,000 not \$250,000. c) Some of the RECs will be generated after the end of the rate period. Only RECs generated during the rate period are eligible

East Side may be required to repay BPA for their claims made on the White Eagle Project.

5.18 Duration of the RRC and Renewable Energy Purchases

The RRC can only be applied to 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 5.5). The RRC cannot be carried over beyond the contract or rate period.

5.19 Administration

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

Bonneville Power Administration
Attn: Tom Osborn
Six West Rose; Suite 400
Walla Walla, WA 99362
Phone: 509-527-6211

5.20 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 RRC:

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

1. Name and type of facility or activity or other official designation;
2. Location and address of the facility and type of renewable energy source;
3. Name, address, and telephone number of a point of contact to respond to questions or requests for additional information;
4. A clear statement of how the Renewable Energy Facility or Activity satisfies the eligibility criteria;
5. 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; and
6. If applicable, verification that the New Renewable Energy Facility will be energized on or before December 3, 2009.

5.21 Application for Certification

Customers are required to use the established conservation reporting software to report and track their renewable activities.

BPA will certify eligibility for the RRC renewable energy resources every 6 months. Customers must submit an annual Application for Certification to the address shown in section 5.19 by July 1 of each year of the rate period beginning July 1, 2006.

An Application for Certification related to a Renewable Energy Facility or Activity must contain the following:

1. All of the information required in the Pre-Application;
2. 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;
3. A statement showing how the customer's RRC was derived and computed;
4. All of the specific information required in applicable sections of this document; and

5. New Facilities subject to RRC claim(s) must provide verification that the project was energized within 30 days of energization, or if the Facility falls under the exemption allowed in section 5.5(2), the utility must provide proof of Facility energization by no later than December 31, 2009.

An Application for Certification for a qualified RD&D activity or eligible donations must contain a description of the qualified Facility or Activity as described in section 5.21 and a copy of the invoices that are the basis for the customer's claim for credit (if applicable). Existing Facilities must provide independent CPA-certified energy and integration costs according to section 5.17.2.

5.22 True-up Due To Pro Rata Reductions

Because of the \$6 million annual cap on renewable claims against the conservation rate credit program, BPA will require utilities to submit renewable rate credit claims 3 months prior to each fiscal year of the rate period. BPA will total all renewable rate credit claims and, if necessary, pro rata reduce claims to keep total claims under the \$6 million cap. BPA will provide notice of the amount of pro rata reduction by no later than August 31 of that year. Utilities subject to pro rata reductions will have 30 days to revise their rate credit claims if affected by a pro rata reduction. Conservation and renewable claims may both be revised to adjust for the reduction.

5.23 True-up for Existing Facilities

Utilities making renewable rate credit claims on Existing Facilities will be required to make initial, prior year claims based on forecasted generation. Utilities may adjust claims in the following FY to true-up for differences in actual vs. forecasted generation. BPA will accept true-ups for the difference between actual and forecasted generation in FY 2007 and FY 2008, however due to the short rate period, no true-ups will be allowed for FY 2009 actual generation after September 30, 2009.

5.24 Procedures for Processing Applications

BPA will process Pre-Applications and Applications for Certification 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 RRC for renewables, BPA will issue a written notice to the applicant.
2. Disqualification — If an application does not meet the requirements of the RRC for renewables or 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 5.19.

5.25 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.

5.25.1 Renewable Pooling Requirements

1. 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.
2. The Pooling organization will provide an annual summary report to BPA. The report shall document the claims of all pooling participants.
3. 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.

Appendix A

Melinda S. Eden
Chair
Oregon

Joan M. Dukes
Oregon

Frank L. Cassidy Jr.
"Larry"
Washington

Tom Karier
Washington



Jim Kempton
Vice-Chair
Idaho

Judi Danielson
Idaho

Bruce A. Measure
Montana

Rhonda Whiting
Montana

August 11, 2005

MEMORANDUM

TO: Debra Malin, Bonneville Power Administration

FROM: Jeff King

SUBJECT: Electricity cost of new renewable energy projects

The electricity production costs shown below are calculated using the representative new generating resource assumptions of the 5th Power Plan, for the initial service years shown¹. These are levelized lifetime values expressed in service year (then current) dollars per megawatt-hour. Key assumptions are described below and are generally consistent with the "benchmark" electricity production costs appearing in the 5th Power Plan. Geothermal costs are omitted because of the absence of reliable cost information; hydro costs are omitted because of the potentially significant variation among projects.

	Wood Residue (Power-only)	Wood Residue (Full CHP)	Landfill Gas	Animal Waste Biogas	Solar PV (<25kW)	Solar PV (25kW+)	Wind (<25kW)	Wind (Cluster)	Wind (Utility-scale)
Capacity factor	90%	90%	80%	90%	10%	15%	14%	30%	30%
2006	65	50	41	49	540	310	290	72	46
2007	68	51	42	51	500	290	270	73	46
2008	69	53	44	52	480	270	260	73	47
2009	71	55	45	54	450	260	250	74	48
2010	73	57	47	56	420	240	240	75	48

Financing: 5th Plan assumptions, 20% publicly-owned utility, 40% investor-owned utility, 40% independent.

Service life: 20 years, conforming to the CO² offset value described below.

Fuel: Wood residue - \$1.00/MMBtu; Landfill gas - \$0.15/MMBtu; Animal waste - no cost (all year 2000 dollars).

¹ The Cluster Wind example does not appear in the 5th Power Plan. The Cluster Wind electricity costs are based on project cost estimates appearing in the report A Comparative Analysis of Community Wind Power Development Options in Oregon of July 2004, prepared for the Energy Trust of Oregon. The costs and performance are representative of several utility-scale turbines installed at a prime wind site and interconnected to an existing near-by medium-voltage distribution or transmission line. The electricity costs for the Cluster Wind case were calculated using methods and assumptions comparable to the other cases.

System integration: The power-only wood residue and landfill gas cases are assumed to sell to the market and incur 1.9% transmission losses and transmission costs of \$15/kW/yr. The utility-scale wind case is also assumed to sell to the market and to incur 1.9% transmission losses, transmission cost of \$20/kW/yr and shaping cost of \$4.55/MWh. The cogeneration wood residue, animal waste biogas, photovoltaics and small scale wind cases are assumed to displace on-site load, subject to \$2/kW/yr capacity service charge. The output of the cluster wind project is assumed purchased by the local utility that shapes the output through Bonneville or other third party. (Values are year 2000 dollars)

Federal production tax credit: Mean value of the portfolio analysis of the 5th Plan. (Levelized value of \$5.49/MWh in year 2000 dollars; \$6.53/MWh in year 2007 dollars.)

Renewable energy credits: Mean value of the portfolio analysis of the 5th Plan. (Levelized value of \$3.71/MWh in year 2000 dollars; \$4.41/MWh in year 2007 dollars.)

General inflation rate: 2.5%/year.

The estimated present value of the lifetime CO² offset benefits of a renewable energy project could be used to establish a credit cap. The values shown below were estimated for a project life of 20 years using the assumptions of the 5th Power Plan regarding the value of future CO² offsets. The AURORA market price model, set up for the base case wholesale power price forecast of the 5th Power Plan was used to develop the estimates. The value of the cap increases with the service year of the project because of the increasing probability and cost of CO² offsets during the life of the project. The estimated value of the cap by year of initial service is shown below in then-current dollars.

2006	\$23/MWh
2007	\$27/MWh
2008	\$32/MWh
2009	\$38/MWh
2010	\$44/MWh