

BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION

**IN THE MATTER OF AN INQUIRY)
INTO RENEWABLE ENERGY AS A)
SOURCE OF ELECTRICITY)
_____)**

Utility Case No. 3619

**COMMENTS OF
THE COALITION FOR CLEAN AFFORDABLE ENERGY**

The Coalition for Clean Affordable Energy (“CCAIE”), pursuant to the Public Regulation Commission's ("Commission") Notice of Proposed Rulemaking issued on February 26, 2002, and re-issued on March 12, 2002, hereby submits comments on the proposed rule.

CCAIE is a coalition of eight environmental and public interest groups active in New Mexico and the broader Rocky Mountain and Desert Southwest region that was formed in 1997 to promote environmental and clean energy interests in the restructuring of New Mexico’s electric utility industry. CCAIE consists of the Conservation Voters Alliance, the Land and Water Fund of the Rockies, the National Parks Conservation Association, New Mexico Citizens for Clean Air & Water, the New Mexico Public Interest Research Group, the New Mexico Solar Energy Association, the Rio Grande Chapter of the Sierra Club, and the Southwest Research and Information Center. The organizations comprising CCAIE have over 10,000 members who live in New Mexico.

CCAIE supports the Commission’s efforts to promote renewable energy in New Mexico and commends the Commission and its Staff for their efforts. We believe that these rules will represent a major step toward providing New Mexicans with affordable, sustainable electricity sources while enhancing New Mexico’s energy security. The following comments are intended to clarify the rule or deal with implementation issues.

Overview of Proposed Portfolio Standard

The graphs below provide an estimate of the impact of the renewable portfolio standard with regard to kWh generated by renewable resources and the associated costs.^[1] Because energy generated from renewable resources will displace energy that would have otherwise been generated from conventional resources, two cost lines are shown: a) the estimated cost of renewable energy acquisitions with no consideration of avoided cost; b) the estimated cost of renewable energy acquisitions minus long run marginal cost (LRMC) of conventional generation which is displaced by generation from renewable energy resources. Long run marginal cost is appropriate because of the length of the time horizon, during which new generation resources would be needed.





Section 7.1 Definition of a Certified Source

Issue: We interpret the definition as including non-grid connected photovoltaic resources located on remote residences, ranches, or other sites. We believe that such an interpretation promotes applications of renewable energy in New Mexico.

Proposed Resolution: No change is needed.

Section 7.7 Definition of Renewable Energy

Issue: As written, the rule would permit use of existing renewable energy facilities to meet

the portfolio standard.^[2] Such a strategy does nothing to foster development of renewable energy projects and would allow the portfolio requirement to be satisfied by the sale of energy or tradable credits to public utilities by recipients or sellers of existing federal or municipal hydro power. The proposed rule properly allows for hybrid units employing both fossil fuels and renewable energy resources. Additionally, the proposed definition includes hydropower resources, which can have significant environmental impacts and in a state with limited water resources this technology is inappropriate for meeting an RPS.

Proposed Resolution: After “.. zero-emissions generation technology” add “installed and first operating after the effective date of this Rule.” Delete “hydropower” from the list of eligible resources.

Section 7.9 Definition of Trading Credit

Issue: The rule should be clarified to indicate that a public utility could meet its portfolio requirements partially or completely through the acquisition of tradable credits ultimately derived from certified sources. The rule should also dispel potential confusion about whether physical delivery of energy to the public utility is required to obtain renewable energy credits via a trade; it is not. Tradable credits should be created only when the underlying energy is delivered to New Mexico retail consumers so that the renewable energy benefits New Mexico. Finally, the rule should be extended to persons consistent with Section 10.1.

Proposed Resolution: Rephrase the definition as follows: **trading credit** means a mechanism whereby a public utility or person can fulfill all or a portion of its portfolio standard requirements through the acquisition of renewable energy certificates ultimately derived from electric generation by Certified Generators or Sellers which is delivered to New Mexico retail consumers. Each credit represents one kilowatt-hour (kWh) of renewable energy. Use of trading credits to help meet a public utility’s or person’s portfolio standard does not require the physical delivery of electrical energy from renewable resources to the acquiring public utility or person but may consist only of accounting entries reflecting the transfer of renewable energy credits.

Section 10.1 Portfolio Standard


Issue: The proposed wording uses the term renewable energy credits, but the definitions use the term trading credits. The rule is not clear when the standard starts. In addition, Section 10.1 appears to require distribution of credits but credits cannot be distributed to consumers. Further, the defined term “procure” refers to contracts for renewable energy whose term is at least 10 years. Utilities may build their own facilities, in which case the term “procure” as defined would not apply. Similarly, the term “procure” should not apply to acquisitions of tradable credits, which may be used to alleviate short term deficiencies in meeting portfolio requirements and would not require 10 year contracts.

The cost impact of the portfolio standard is reasonable as described below. Renewable energy costs (at retail) for some common technologies may be in the following ranges (including the effect of an assumed 6 percent transmission and distribution loss and assuming a Production Tax Credit or PTC every year for wind energy that results in a cost decrease of \$0.015 per kWh):^[3]

• Wind energy with PTC:	\$0.026 to \$0.063 per kWh
• Landfill gas	\$0.074 per kWh
• Photovoltaics (in southwest)	\$0.42 to \$0.50 per kWh

A blend of 50 percent wind energy, 49 percent landfill gas, and 1 percent photovoltaics results in a cost (including the effect of transmission and distribution losses) of \$0.053 per kWh to \$0.073 per kWh, with the midpoint at \$0.063 per kWh.

The graph below indicates the impact of the proposed renewable portfolio standard using the same assumptions as in the previous graphs and assuming a cost of renewable energy of \$0.63 per kWh before netting out displaced conventional energy costs.



The net rate impact (cost of renewable energy resources minus the long run marginal cost of displaced conventional generation), per kWh of total retail energy sold, starts at about \$0.00044 per kWh in 2003, reaches a maximum of about \$0.0017 per kWh in 2007 and declines after that. The graph also shows the percentage impact of the rate increase due to the portfolio standard assuming that rates would otherwise be \$0.066 per kWh, the average rate in 1999 charged by investor owned utilities and cooperatives in New Mexico. The percentage impact reaches a maximum in 2007 at about 2.6 percent but is generally much lower in earlier and later years.

Additionally, CCAE encourages the Commission to adopt a rule that requires a set percentage of the portfolio standard to be met with solar photovoltaics. This would be similar to standards adopted in Arizona and Nevada, and, given the cost analysis given above, this amount of solar PV would not be burdensome. CCAE proposes that a gradual

increase of the solar portion of the RPS (from 0.5% to 1.0% over four years, as described below) would facilitate compliance.

Proposed Resolution: Reword the section as follows: Each public utility or person supplying power to New Mexico customers shall obtain energy from certified sources, including generation owned by the public utility or person and energy procured under contract as set forth in Section 7.5, and/or obtain trading credits associated with energy generated by certified sources, sufficient to meet the following portfolio standards as a percentage of total annual retail energy sold:

Years ending September 1, 2003 and September 1, 2004:	2%
Years ending September 1, 2005 and September 1, 2006:	5%
Years ending September 1, 2007 and thereafter:	10%

Of the above percentages, the following amounts must be met with solar PV:

Years ending September 1, 2003 and September 1, 2004:	0.5%
Year ending September 1, 2005:	0.6%
Year ending September 1, 2006:	0.8%
Year ending September 1, 2007 and thereafter:	1.0%

Section 10.2 Tradable Credits

Issue: We strongly support the opportunity for generators and public utilities to employ tradable credits. The rule should explicitly state that tradable credits may be applied at any time during the duration of the portfolio standard so as to allow “banking” of overproduction from one year to a subsequent year. The rule should also state that tradable credits can be used only once to meet a public utility’s portfolio standard (no double counting). Further, the rule should apply to persons as well as public utilities, and should

clarify that all or a portion of a public utility's or person's portfolio requirements may be met with the trading credits.

Proposed Resolution: Revise the wording of Section 10.2 as follows: A public utility or person may apply to the Commission for approval of "trading credits" as a means of satisfying all or a portion of its portfolio standard requirements. Tradable credits may be applied by a public utility or person to meet any portion of its portfolio requirements any time after the generation of the renewable energy from which the tradable credits are derived. A tradable credit or the underlying kWh may be used only one time to meet a public utility's or person's portfolio standard and shall not be double counted. A tradable credit must be retired upon its application to meet a public utility's or person's portfolio standard. Neither a retired credit nor the underlying kWh associated with a retired credit can be further used to meet a public utility's or person's portfolio standard.

Section 10.4 Purchases

Issue: The cap of 50 percent of portfolio requirements coming from any one technology is reasonable. The cap will ensure that a variety of technologies will be pursued, including those which are suitable as distributed generation located in urban areas (e.g., photovoltaics and landfill gas).

The threshold cost impact for purchases deemed to be prudent is ambiguous and, under a reasonable interpretation, may be inconsistent with the costs of acquiring renewable energy. The proposed rule states that "A public utility's purchase of renewable energy resources which does not raise the utility's total cost of energy above .08 cents per kWh of the utility's last three years average cost of overhead residential rates on a fully allocated basis shall be deemed prudent" This wording **might** be interpreted as follows: the cost of renewable energy and trading credits is deemed prudent if the net impact on rates averaged over all customer classes and averaged over three years is no more than \$0.0008 per kWh.

The figure below shows that the "prudent costs" (using the interpretation set forth above)

do not match the net impact of meeting the portfolio standard (renewable energy costs minus the LRMC of displaced conventional energy).



Proposed Resolution: Replace the last sentence of Section 10.4 with the following: A public utility's acquisition of renewable energy resources and trading credits which meets the portfolio standard requirements and which does not exceed a blended target cost of \$0.073 per kWh averaged over three years shall be deemed prudent and subject to assured cost and reward recovery. ^[4] The Commission may revise the blended target cost to be used after September 1, 2007 based upon a determination, pursuant to hearing, that reasonable costs of blends of renewable energy are more or less than \$0.073 per kWh.

Sections 10.6 and 10.7 Interconnection and Net Metering

Issue: Both of these sections should have a time limit for filing.

Proposed Resolution: Add to Section 10.6 the following sentence: The standard form of interconnection agreement shall be filed with the Commission for Commission review not later than sixty days after the effective date of this Rule.

Add to Section 10.7 the following sentence. Net metering tariffs shall be filed with the Commission for Commission review not later than sixty days after the effective date of this Rule.

Section 10.9 Reward.

Issue: This section provides an incentive to exceed the portfolio standard by granting a reward of \$0.00008 per kWh for kWh obtained and distributed in excess of the current portfolio standard. The reward is small – generating between \$1500 and \$10,000 per year if all the utilities exceeded the portfolio standard by 5 percentage points in any year before 2014. Therefore, it is not much of an incentive. Further, as a result of market conditions, the reward may be partly passed along to sellers from whom utilities purchase renewable generation, further reducing incentives to utilities. Third, it is not clear whether a reward would apply to renewable generation in excess of the portfolio standard in year t when that excess is transferred via tradable credits for use in a subsequent year when generation would otherwise not meet the portfolio standard. In sum, the reward section accomplishes little and adds needless complexity.

The portion of Section 10.9 addressing distributed generation requires clarification on ownership of trading credits and the right to count energy output toward meeting a public utility's portfolio requirements.

Proposed Resolution: Revise Section 10.9 so that it reads (in its entirety) as follows:

10.9 Distributed Generation: A public utility may file a tariff to promote small scale renewable energy development within its distribution service territory by such means as low interest loans, lease-purchase options, or other financing arrangements offered to

customers to install distributed renewable energy facilities. If the public utility and the owner of the property on which the facilities are located agree, the utility may include the energy output from these small scale facilities to meet its portfolio standard requirements. Any trading credits associated with these facilities shall belong to the owner of the property on which they are located unless that owner agrees to transfer them.

Section 10.11 Transmission.

Issue: This section requires all existing and future transmission agreements to be modified within 90 days of the effective date of the Rule to reserve firm transmission capacity for renewable energy resources. It is not clear that the Public Regulation Commission has the authority to direct renegotiations of transmission agreements or that firm transmission capacity is needed – in some cases interruptible transmission service may be adequate. Further, depending on the circumstances, the buyer or the seller of renewable generation may be responsible for obtaining transmission service. Finally, where trading credits are used, transmission service may not be needed at all.

Proposed Resolution: Revise Section 10.11 as follows: Subject to federal law, public utilities and persons shall ensure that there is adequate transmission capacity to reliably deliver power from renewable generation to meet the requirements of this Rule, taking into account the use of trading credits.

In conclusion, CCAE believes that an RPS and a requirement that utilities offer green pricing options are the best policies to promote the development of renewable energy in New Mexico. We appreciate the opportunity to provide comments on this matter.

Dated this 14th day of April, 2002.

Respectfully submitted,

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ON BEHALF OF THE COALITION FOR CLEAN AFFORDABLE ENERGY

[1] The graphs assume: 3 percent annual growth rate in kWh consumption starting at 16,170 GWH in 1999; a renewable portfolio standard of 2 percent, 5 percent and 10 percent as proposed; a blended renewable energy cost of \$0.063 per kWh (where kWh take into account transmission and distribution losses) in 2002 growing at a nominal rate of 0.0 percent per year (a conservative estimate in which real cost decreases are offset by inflation); long run marginal cost (LRMC) of \$0.04 per kWh in 2002 (where kWh take into account transmission and distribution losses) escalating at a nominal rate of 3 percent per year. Details on the assumed cost of renewable energy resources are provided in connection with the discussion of Section 10.1. Transmission costs are excluded from the analysis because it is assumed that they are the same for conventional and renewable energy. In support of the nominal escalation rate for LRMC, the Energy Information Administration Annual Energy Outlook 2002 (reference case) forecasts an annual growth rate in real natural gas prices paid by electric generators of -0.6 percent from 2000 to 2020. Capital costs for new combined cycle units are assumed to increase slightly in real dollars representing the impact of increasingly stringent environmental restrictions. Inflation is assumed to be 3 percent per year.

[2] According to the National Renewable Energy Laboratory REPiS data base, existing renewable generation facilities in New Mexico are: 2.2 MW of biogas at the Southside Water Reclamation Plant installed in 1987; 80.02 MW of hydropower facilities owned largely by the federal government or municipalities and installed between 1927 and 1991; 1.2 MW of wind power installed in 1999; and about 81 kW of small photovoltaic projects installed between 1981 and 2000.

[3] Wind costs from Arthur D. Little, *Profiles of Leading Renewable Energy Technologies for the Massachusetts Renewable Energy Trust Fund*, October 10, 1998, page 66. Landfill gas cost from Arthur D. Little report, page 157 assuming an internal combustion engine or gas turbine; landfill gas cost includes the initial cost of the gas collection system. Lower landfill gas costs could be achieved if the gas were used in an existing power plant. Photovoltaic costs assume capital costs of \$7,000 to \$8,500 per kW for a 100 kW tracking system, a capacity factor of 25 percent, a 20 year time horizon, a 10 percent interest rate, and O&M, taxes and insurance costs of \$35 per kW per year. The Production Tax Credit is indexed to inflation, it may not be extended beyond 2003, and during its application it may result in a cost reduction less than \$0.015 per kWh at the point of generation. For simplicity in this analysis it is assumed to result in a cost reduction (before transmission and distribution losses are taken into account) of \$0.015 per kWh every year.

[4] The figure of \$0.073 per kWh is the high end of the range of costs described above. The costs referred to in the proposed revision are the utility's annualized costs for renewable energy and trading credits and are **not** the net cost (renewable energy cost minus the LRMC of displaced conventional energy).