

**BEFORE THE PUBLIC SERVICE COMMISSION  
OF THE STATE OF UTAH**

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IN THE MATTER OF THE APPLICATION ) OF PACIFICORP FOR AN ORDER ) APPROVING AVOIDED COST RATES )	)	DOCKET NO. 03-035-14
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**AMENDED  
REBUTTAL TESTIMONY OF JEFF BURKS  
ON BEHALF OF THE UTAH ENERGY OFFICE  
UTAH DEPARTMENT OF NATURAL RESOURCES**

**Q: Please state your name and address.**

A. My name is Jeff Burks, and my business address is 1594 West North Temple, Suite 3610, PO Box 146480, Salt Lake City, Utah 84114-6480.

**Q: Who is your employer and in what capacity are you employed?**

A: I am employed by the Utah Department of Natural Resources where I currently serve as Energy Policy Coordinator for the Utah Energy Office (UEO).

**Q: Have you previously testified before the Utah Public Service Commission on issues related to regulation of electricity services in Utah?**

A: Yes. I have filed testimony in PacifiCorp Dockets 97-035-01, 98-2035-004, 99-035-10, 01-035-01, 01-35-037 and was a signatory party to the *Stipulation of Settlement of Issues Related to the Public Purposes Programs* in the Scottish Power/PacifiCorp merger proceedings. I have served as co-chair of the Public Service Commission's (Commission) Energy Efficiency and Renewable Energy Task Force, and Energy Efficiency Advisory Group.

**Q: What is the purpose of your rebuttal testimony in this docket?**

A: The purpose of my rebuttal testimony is to respond to issues addressed in the pre-filed testimony of other witnesses. I will comment on testimony filed by the Committee of Consumer Services ("Committee") witness Kelly Francone and PacifiCorp's ("the Company") witnesses Mark Tallman and Bruce Griswold on the issue of Green Tags ownership and Qualifying Facilities (QFs), and the value of Green Tags. I will provide testimony that the use of Green Tags or renewable energy certificates (RECs) is an emerging issue not only to be considered in this proceeding, but will be an issue in other

utility proceedings brought before this Commission. I will provide comments on how adjustments to avoided costs for intermittent QF renewable resources such as wind should be dealt with in this proceeding. Finally, this docket presents the Commission with its first opportunity consider the issue of Green Tags within the context of the development of the Western Renewable Energy Generation Information System (WREGIS).

**Q :** **What issues would you like to comment on regarding testimony that has been presented on the topic of “Green Tags”?**

A: I would like to expand upon witnesses Mark Tallman and Kelly Francone’s comments on “Green Tags” and provide the Commission with additional information regarding RECs, markets for RECs, ownership of RECs and the necessity of the Company participating in an independent accounting system to allow regulators to track and account for ownership and transfer of RECs.

**Q:** **What is a REC?**

A: Electricity generated from renewable energy creates two distinct tradable commodities – the underlying electricity and the associated “environmental” attributes. RECs represent a contractual right to the environmental attributes associated with a specific amount of renewable energy generation. RECs have value to consumers and can, and are being sold separately from the electricity. One REC represents 1 MWh of renewable energy generation.

**Q:** **Please explain the difference between Green Tags and RECs?**

A: RECs and Green Tags are different names for the same commodity, i.e. the environmental attributes of renewable energy generation. They are also referred to as tradable renewable certificates (TRC), green tickets, renewable certificates, renewable energy credits, and renewable resource credits.

**Q:** **To what extent are RECs currently being sold and traded in U.S. power markets?**

A: Wholesale and retail markets for RECs are expanding rapidly in the U.S. and the West for both regulatory compliance and commercial purposes. As Committee witness Kelly Francone has stated, RECs are being used to verify compliance with Renewable Energy Portfolio Standards (RPS) and other renewable energy mandates established by state legislatures or utility regulators.<sup>1</sup> Commercially, RECs are a universally accepted part of wholesale transactions for sales of electricity from wind projects. A recent memorandum prepared by KEMA, Inc. for the California Energy Commission estimates that at least 4.5

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<sup>1</sup> Most states with a RPS have allowed RECs to be used to demonstrate compliance including, Arizona, Connecticut,

million MWh of wholesale transactions involving RECs were contracted for in 2003. At the retail level, six of the ten largest green pricing programs in the U.S. are using RECs purchases to support their programs, including PacifiCorp's Blue Sky program.

**Q: Why are RECs important to Utah regulators, and consumers?**

A: As established by direct testimony of the Company's Witness, Mark Tallman, RECs (or "green tags") are closely associated with wholesale sales of electricity from QF renewable energy facilities and therefore intersect with utility regulation. Additionally, there are a number of circumstances where RECs and establishing RECs ownership will be important to this Commission, the Company and ratepayers.

Because RECs have economic value, establishing ownership of RECs is important to the Commission in setting of rates, establishing tariffs and protecting interest of consumers participating in voluntary green pricing programs. The Company's 2003 IRP and recent RFP for renewable resources suggest purchases of electricity from renewable energy sources will become an increasing part of the Company's resource portfolio in the near future. RECs transactions are likely to be an important feature of PacifiCorp's sales and purchases of electricity from renewable energy that this Commission will need to monitor in order to set just and equitable rates. For example, in the case where the Company owns renewable energy generation that has been paid for with ratepayer funds, the revenues from the sale of RECs to other utilities or wholesale marketers should be credited against the Company's cost of service in establishing revenue requirements for setting rates. RECs can also be used by the Commission to monitor and compare the Company's purchase and sales of renewable energy against their IRP commitments.

In the matter raised in this docket by Company's witness Bruce Griswold, the avoided cost price for electricity generated from a wind QF should be adjusted to reflect whether or not the ownership of RECs belong to the Company, ratepayers or the QF. Finally, ownership of RECs is important in protecting the interest of consumers who have contributed to the Company's investments in renewable energy through the Blue Sky program. Participants in this program need the assurance that the RECs the Company has purchased on their behalf are owned by the participants and have not previously been sold by the renewable energy generator or used by the utility to meet some other

regulatory compliance purpose.

**Q: How can ownership of RECs be tracked?**

A: There are two principle methods to verify RECs ownership; contract audits and certificates-based tracking systems. The first method, contract audit, is to conduct an independent audit using contracts from the generator through to the final owner. The audit is performed using either power sales contracts if the RECs have been sold bundled with electricity or RECs contracts if they are sold unbundled. If the RECs are sold bundled with the electricity this method of tracking can involve the audit of settlements data from a control area operator or the review of numerous contracts making it cumbersome and expensive. This method of tracking is labor-intensive, expensive and not a very practical given the volumes and the dollar amounts involved. Another disadvantage to the contract-path audit is that it is unable to check for double counting (selling) system-wide because in each audit the auditor is only looking at the transaction between the generator and the utility. As a result it is very difficult for a regulator to establish whether double counting or selling of RECs is occurring. The second method for tracking ownership of RECs is through an electronic certificates-based tracking system. Certificate tracking systems allocate one REC for each MWh of electricity produced, and each REC has a unique serial number. The possession of the REC is proof of ownership and eliminates the need to track ownership through a chain of generators and intermediaries. Audits to verify ownership of RECS are almost entirely automated and made simpler with a certificates-based accounting system.

**Q: Are there any regions in the U.S. where tracking systems are operating or in development?**

A: Yes. At present, two parts of the country have operating generation information and certificate tracking systems. The first system was brought on-line in Texas in 2001 and a second system was implemented in the New England Power Pool (Nepool) in 2002. The Texas system is operated by ERCOT and only tracks the generation of renewable energy and ownership of RECs. The Nepool system tracks all generation sources, including renewables. There are also two other certificates-based generation information system under development in the PJM and Western interconnections.

**Q: Who is sponsoring development of the generation information system in the Western Interconnection?**

A: The Western Governors Association, the Western Regional Air Partnership, and the California Energy Commission are funding development of the Western Renewable

Energy Generation Information System (WREGIS).

**Q: Please explain the functions of WREGIS and how it will track ownership of RECs?**

A: WREGIS will be an independent accounting system that tracks renewable energy generation, creates RECs and accounts for transactions and ownership of RECs in the geographic region covered by the Western Electric Coordinating Council. WREGIS will operate like a banking system for RECs. When a generator registers with WREGIS an account will be established. Each MWh of renewable energy generation from the generators facility will be issued a unique serial number and the newly created RECs will be deposited into the generators account. When the generator sells RECs, it transfers those RECs into the account of the buyer who will have also established and account with WREGIS. In this way ownership, trading and retirement will be tracked. WREGIS will also create independent reports on REC transactions for utility regulators and market participants.

**Q: When is WREGIS scheduled to be operational?**

A: WREGIS is scheduled to be on line in 2005. When operational it will provide state utility regulators with the precision and transparency they need to 1) verify utility compliance with state renewable energy policies and Commission approved programs, 2) establish ownership and revenues associated with RECs for purposes of setting rates and tariffs, and 3) protect consumers and utilities purchasing green power from “double sales” and false product claims.

**Q: What is the Utah Energy Office’s position on the ownership of RECs associated with power purchased from a renewable energy QF?**

A: With respect to the ownership of RECs under existing QF contracts, the UEO believes the matter is beyond the scope of this docket and should be established by the Commission in a separate proceeding. The question before the Commission in this docket is whether or not RECs associated with the purchase of new QF renewable power under this avoided cost filing automatically transfers ownership of the RECs to the ratepayer? It is the Energy Office’s position that ownership should not be automatically transferred and that this is a matter to be negotiated between the Company and the QF owner. One of the desirable features of RECs is the ability to trade them separately from the underlying electricity commodity. In combination with other policies and programs sponsored by states and utilities, RECs can improve the economics of renewable energy resources and increase the development of the most cost effective resources in Utah and the West. The option of the utility and QF owner to negotiate

whether or not to include RECs in the wholesale power agreement enables the parties to make decisions that maximize the value of the commodity or offers the greatest benefits to the owner of the REC whether that is the Company's customers or the QF owner.

It is also true that not all RECs are equal or desirable. For example, a REC from a landfill gas project has associated with it fugitive methane that can be a significant future liability as a greenhouse gas. In the case of the land-fill gas QF, it is conceivable that the availability of electricity and the cost power from the project would be in the best interest of the utility and ratepayers, however automatic ownership of the RECs might not be considered by ratepayers to be particularly beneficial. In this example the Company should not be required to purchase, nor customers pay for, the REC associated with this renewable energy QF.

What is critical in this proceeding is that the Commission consider on how to establish a consistent method for verifying ownership and a value of RECs purchased from a renewable energy QF. If the Company purchases the REC as part of the QF wholesale power contract the Commission and utility should be able to verify that the Company has sole custody of the RECs purchased. This will ensure the RECs have not been double sold by the QF owner and that ratepayers will receive the benefits inherent in purchasing both the electricity and the RECs.

In the case of determining a value for RECs, page 3 of testimony filed by the Committee's witness, Kelly Francone, the Committee finds that there is a wide divergence in the price paid for RECs in the wholesale market. The Committee's conclusion is consistent with the observations the UEO has made tracking RECs prices in different markets for 2003. At this time it is difficult to see how the Commission could automatically confer ownership of the RECs to ratepayers without first establishing a value or a methodology for assigning a value to the REC associated with generation from a renewable QF.

**Q: What is the UEO's position on the value that should be ascribed to RECs?**

A: The UEO agrees with the Committee's witness that there is a great deal of variability between the value of RECs depending on the type of market they are bought and sold in, technology and location. For example, discussions the UEO has had with RECs brokers indicates pricing in compliance markets can vary by a factor of 10 depending on the region of the country. In voluntary markets, where buyers are responding to

individual preferences, prices can vary by two orders of magnitude. In the absence of a Commission proceeding where a value or methodology for RECs is determined by expert testimony, it would not be prudent at this time for the Commission to establish a value or term at which the Company is required to purchase the RECs associated with a renewable QF power purchase contract.

**Q: What other issues would you like to bring to the attention of the Commission?**

A: I would like to comment on Utah's energy policy on QFs and the issue of calculating adjustments to avoided cost prices for wind QFs.

**Q: What is Utah's policy on independent power generation?**

A: Utah's energy policy calls for the development of new energy supplies sufficient to meet Utah's growing demand. Electricity generation from distributed generation technologies such as cogeneration and renewable energy resources are important potential sources of electricity supplies for Utah's ratepayers and economy. Moreover, the Utah Legislature declares "[i]t is the policy of this state to encourage the development of small power production and cogeneration facilities, ...and

*"[t]o promote the more rapid development of new sources of electrical energy, to maintain the economic vitality of the state through the continuing production of goods and the employment of its people, and to promote the efficient utilization and distribution of energy, it is desirable and necessary to encourage independent energy producers to competitively develop sources of electric energy not otherwise available to Utah businesses, residences, and industries served by electrical corporations, and to remove unnecessary barriers to energy transactions involving independent energy producers..." Utah Code Ann. 54-12(1) – Small Power Production and Cogeneration*

**Q: Is it always the case that cogeneration and renewable energy generation facilities qualify as a QF?**

A: No. An on-site cogeneration or renewable energy generation project may not have excess electric energy and capacity to sell to the Company. However, in the case where an independent power producer has designed the facility to have excess energy and capacity to make such a sale, and the facility can meet the Qualifying Facility (QF) standards under the Public Utility Regulatory Policy Act of 1978, (PURPA) and the implementing regulations issued by FERC, then the Company would have an obligation to purchase the electric energy and capacity at avoided cost rates as determined by this Commission.

**Q: What is the role of the Commission in encouraging the development of QF cogeneration and renewable energy facilities by independent power producers in Utah?**

A: For Utah to realize the potential cost, reliability, and environmental benefits offered by QF generation facilities depends on the Commission establishing an avoided costs methodology and standards that remove the financial disincentives and enable QF's to compete fully and fairly with alternative electric energy sources for a place in the Company's portfolio.

**Q: What types of financial disincentives can wind energy QFs potentially face?**

A: The Company's witness, Bruce Griswold, identifies and discusses some of the factors used by the Company to determine the components and structure of avoided cost prices for an individual QF. Mr. Griswold's testimony specifically addresses how avoided costs for an intermittent renewable resource such as a wind QF should be determined. He notes that deductions to the avoided cost price paid by the Company should be taken to account for costs of integrating an intermittent resource, such as wind, into the Company's electric system. System integration costs for an intermittent resource include cost associated with increased operating reserve requirements and costs for system imbalance. The methodology for determining these costs and the level at which these costs are established can pose a significant financial disincentive to a wind QF.

**Q: What is the Company's recommendation on how system integration costs should be determined for an intermittent resource such as a wind QF?**

A: The Company's witness recommends that the amount of those costs should be determined by the results of the most recent Integrated Resource Plan (IRP). Mr. Griswold goes on to state that in PacifiCorp's most recent IRP the costs associated with incremental reserves and imbalance costs were estimated to be \$5.50 per MWh and that these costs should be deducted from the avoided cost price paid for electricity purchased from a wind QF.

**Q: Are the system integration costs estimates included in the Company's IRP the appropriate costs to deduct from the avoided cost price paid to a wind QF?**

A: Not necessarily. I believe the Company's IRP establishes a credible methodology and cost estimates for purposes of the IRP exercise. However, the \$5.50 per MWh adjustment may not be the appropriate cost to deduct in calculating the avoided cost price paid to an individual wind QF located in Utah. The imbalance cost that was included in the IRP's estimate of system integration costs was \$3.00 per MWh and was

calculated on the basis of 1,000 MW of new installed wind capacity on the PacifiCorp system. A review of *Figure L.1, Wind Imbalance Costs*, on page 367 of the Company's 2003 IRP indicates that imbalance costs of less than \$1 were incurred for installation of new wind generation capacity of less than 200 MW. The cost per MWh for the incremental reserve requirement that went into the \$5.50 MWh number was estimated to be \$2.50 MWh in the IRP and was calculated based on 500 MW of installed wind capacity. Using the same methodology as was used in the IRP but assuming a 50 MW QF wind facility located in Utah results in a \$.77 per MWh costs for incremental reserve requirements. Employing the methodology used in the Company's 2003 IRP, while assuming installed capacity numbers that are more in line with those of an individual wind QF, results in much lower system integration costs than reported in the 2003 IRP or recommended in the testimony of the Company's witness, Bruce Griswold.

**Q: What is the UEO's conclusion concerning the amount of the adjustment the Company proposes to account for system integration costs for a wind QF?**

A: It is the UEO's opinion that \$5.50 per MWh is not the appropriate cost to deduct from the avoided cost price for a wind QF. This figure was estimated in the Company's 2003 IRP to account for additions of installed wind capacity on the PacifiCorp system in the range of 500-1000 MW. Wind QF's are likely to be much smaller, and therefore have a lower integration costs associated delivery of electricity to PacifiCorp's system. Additional refinements to the IRP modeling and more accurate techniques for assessing wind integration costs will be needed for QFs.

**Q: What are the UEO's recommendations regarding the issues of RECs and system integration costs for wind QF's?**

A: First, the Commission should acknowledge that RECs as an acceptable instrument for the Company to use in transacting sales and purchases of electricity from renewable energy facilities, including QFs.

Second, acquiring the RECs associated with the purchase of new QF renewable power at wholesale under an avoided cost filing for facilities greater than one MW should not be required as part of the power purchase agreement. Whether or not RECs are purchased with the electricity commodity should be determined during the negotiation of the QF power purchase contract. The Commission's decision whether or not to approve the RECs purchase agreement should then be informed by the positions of other interested parties to determine whether the purchase is in the best interest of ratepayers.

Third, given the growing role of renewable energy in the Company's portfolio and use of RECs in state and utility supported renewable energy programs, the Commission should establish an investigative docket involving subject experts and other interested parties where methodologies for calculating capacity value and system integration costs for renewable energy QF's can be refined and issues associated with the value and ownership of RECs can be addressed in an open and transparent process.

Finally, in order to firmly establish and track ownership of RECs that are purchased and sold by the Company, the Commission should require the Company to establish an account with WREGIS when it becomes operational in 2005 and transact all renewable sales and purchases through that account.

**Q: Does this conclude your testimony?**

A: Yes it does.