

In the Matter of the Application of PacifiCorp for Approval of an IRP-Based Avoided
Cost Methodology for QF Project Larger Than One Megawatt

Docket 03-035-14

DPU Exhibit 2.0R

Rebuttal Testimony of Andrea Coon
Division of Public Utilities

September 8, 2005

Q. Please state your name and the party you represent.

A. My name is Andrea Coon. I represent the Division of Public Utilities (Division).

Q. Have you previously filed testimony in this matter?

A. Yes. I filed direct testimony on behalf of the Division on July 29, 2005.

Q. What is the purpose of this rebuttal testimony?

A. The purpose of this rebuttal testimony is to respond to the direct testimony filed by various intervening parties on July 29, 2005. First I will address issues that are common throughout several pieces of testimony, and then I will address issues that are unique to a single party or witness.

Common Issues

Q. What is the first common issue that the Division would like to address?

A. The first issue is that of PacifiCorp offering a tolling arrangement as a pricing option to a potential QF. The idea is this, a QF would be paid an energy price based upon a heat rate times a gas price obtained from an index, probably a short notice index, such as a daily or a month ahead. Although this was an option under the Stipulation in this case, the Division finds the continuation of this option as it exists in the Stipulation to be troubling. The whole idea behind avoided cost rates is that they are supposed to simulate what the utility would otherwise pay to either produce their own power or to purchase power on the market. The Division believes that an energy price that is based on a tolling option that uses a short notice gas index could overstate avoided costs. The reason that the Division believes this is because PacifiCorp purchases a large majority of its gas 24 to 36 months in advance of its intended delivery and usage, at least some of which is procured by means of a competitive bid. These actions mean that the majority of PacifiCorp's gas purchases are not subject to the volatility of the short-term markets. It also means that there is a

very good chance that PacifiCorp is paying less for gas than the price reflected on the short-term markets, due to both the advance purchase aspect as well as the volume purchase aspect. Therefore, basing avoided costs on a short-term gas market index could be overstating the actual costs that PacifiCorp would be paying to either self-generate or to purchase long term from another source. The Division is unconvinced that this option as currently proposed would maintain ratepayer neutrality.

Q. Would a reasonable hedge be to have PC purchase the gas?

A. Not necessarily. The reason that the facilities in question are considered QFs is because the power that is produced is part of a larger process intended in general to deliver steam to the industrial facility. Therefore, if PacifiCorp were purchasing all of the gas, ratepayers would in effect be subsidizing the industrial processes that are benefiting from use of the steam. The Division does believe, however, that a reasonable method of hedging exists. One possible solution would be to index prices based upon PacifiCorp's actual gas costs as shown in its contracts and other documentation. I am sure that other parties also have ideas that could present a workable solution to keeping a tolling arrangement while preserving ratepayer indifference. The Division is open to discussing alternatives.

Q. What is the next general issue that you would like to address?

A. The next general issue is that of maintaining the stipulation condition of energy payments at 93% of Palo Verde. Several Parties have suggested that energy payments during certain period should remain linked at 93% of Palo Verde as allowed in the stipulation. The Division is not comfortable with continuing this practice. PacifiCorp did provide evidence that in the short run (over a one year period) energy payments equal to 93% of Palo Verde was a reasonable compromise. The Division has subsequently examined a longer set of time series data and found that over the 5-year period considered, the average non-firm to firm price is substantially lower than 93%. In addition, a

recent amendment to a previous QF agreement linked energy prices to the market, but at a considerably lower percentage than 93. Furthermore, recent GRID runs, however, show that energy value to PacifiCorp is far below what Palo Verde's prices are projected to be. The prices on the Palo Verde spot or day ahead markets are, at least during the on peak hours, going to be driven by costs associated with a marginal plant, perhaps a high heat rate gas plant like a aero derivative. This means that the prices are going to be higher than what a company without need of power would be willing to pay. PacifiCorp buys in advance for a good portion of its power shortages, meaning that it probably obtains better prices than can be obtained on the day ahead market. Thus, even if the QF were only displacing a market purchase, the percentage of Palo Verde may still overestimate the avoided cost.

Q. Several parties brought up the fact that the GRID model is much too difficult and complex to make it a usable model for avoided costs. Does the Division agree with this?

A. The Division does agree that the GRID model is a complex piece of machinery, meant to weave a cost out of the many pieces of a large and complex power system. The Division does not agree, however, that this complexity precludes it from being used in the avoided cost area.

Q. Even though the Division believes that the GRID is a reasonable model to be used for calculating avoided costs, does the Division wish to augment its recommendation for using GRID?

A. Yes. The Division continues to experience difficulties with GRID due to insufficient memory. These memory problems MUST be fixed before GRID is implemented for avoided cost use. The Division has made suggestions to PacifiCorp as to how these problems could be fixed. The Division requests that in prior to Surrebuttal testimony, PacifiCorp provide the parties with details of how it anticipates solving these problems and the timing for the solutions.

Q. Given the fact that the GRID is difficult and complex, would it not be better to use a simplified model such as a proxy?

A. No, as yet I am not sufficiently convinced that the proxy models presented by the interveners do an adequate job of representing the functions and conditions of the PacifiCorp system. This is not to say that I could not be convinced, or that there is no possible proxy that could provide reasonable results. I just do not believe that the proxy models provided quite make it.

I obtained copies of the three proxy models suggested by three different intervening parties. Mr. Roger Swenson provided the first. When I requested the model, I also requested detailed instructions on how to use the model. When the model arrived, I was provided with 4 lines of instruction that primarily dealt with a fixed price option, not with an option in which dispatch hours or conditions could be altered. After discussing this model at some length with the Division's computer expert, I was assured that the model could not perform the tasks that I required. Also, it was interesting to note that Mr. Swenson's model used outputs from the GRID as inputs to his model. I am therefore unconvinced that his model could take the place of GRID.

As to the model provided by Mr. Collins, my computer expert indicated that the model had some functionality, but that the functionality was limited. I believe that Mr. Collins pointed to this limited functionality when he indicated that it was his belief that each type of resource would need its own proxy model. Dr. Collins' model would only work for a wind resource. Therefore, again, the Division is not convinced that Mr. Collins' model is a reasonable substitute for the GRID, as it does not contain the same types of functionality.

As to the model submitted by Mr. Townsend, my computer expert did not find the same types of fatal flaws in the equations, but as it is today, the model still contains some limitations in functionality. The model is made up of a series of spreadsheets that contain the inputs as well as the equations to determine a price. The equations and the inputs are fairly straightforward, but the model itself is only intended to find pricing for one type of resource, a

thermal resource desiring a tolling arrangement. In order to determine pricing either for a fixed price option or a different type of resource, the model would need to be adjusted or a new model built. Therefore, the Division cannot at this time recommend that this proxy be adopted as the model to be used.

Q. It has been suggested that perhaps using previously signed contracts, as a proxy for pricing wind would be a good solution. Has the Division considered this option?

A. The Division has considered this option and is not convinced that market contracts are the best proxy for a resource such as wind, which depends so heavily upon site-specific characteristics to determine value. Say, for example, a wind site in Idaho is awarded a contract by PacifiCorp after participating in a competitive bid process. The Division is not convinced that it would then be appropriate to apply those same prices to any QF developer in Utah that requests pricing. Many variables may be different between the projects, yet under the market as a proxy idea, all of the variations or considerations that determined the market price may not be properly accounted for in terms of pricing.

Q. Why does the Division not agree that the market during the off-peak hours is limitless?

A. While some of the other parties have used the existence of an official index price during all hours to indicate the presence of an unlimited market for cheap power, the Division is instead relying on actual plant performance information as provided by PacifiCorp. If indeed there is an unlimited market for cheap power in all hours, PacifiCorp's coal plants should show this by the manner in which these plants operate. In other words, these plants should be running "full out" in all hours during which the plant is not down for maintenance. The operating data from the coal plants does not support this assumption. Specifically, the Division examined operating data provided by PacifiCorp in response to DPU 5.2. This data shows the generation totals for each plant for a one-year period. Due to the number of data points involved, I

selected several coal plants located in the Utah bubble to analyze and selected only the first day of each month. The numbers used were straight generation totals, not adjusted to reflect what proportion of the generation would belong to PacifiCorp. This selection, attached as DPU 2.1r, shows that the daily generation shows swings of 10 percent or more, depending on the time of year. For example, on December 1, 2004, the plants listed went from generating just under 82% of possible capacity at 3 a.m. as listed in Appendix C in the 2004 IRP) to generating about 94.5% of possible capacity at 5 p.m. This pattern of lower generation at night seems pretty common, although in off-peak months, the tendency is to have lower generation in all hours. Therefore, the Division does not see any conclusive evidence that PacifiCorp is able to sell however much energy it chooses into the markets in all hours. In fact, the Division finds itself persuaded that coal plants are indeed being turned down to some degree, even during peak summer or winter months during which a market would intuitively be strong. The Division does not view a listed market price as conclusive proof of demand.

Q. Several parties have supported using non-firm transmission in GRID. Does the Division support using non-firm transmission for planning and/or pricing?

A. While the Division supports the idea that PacifiCorp should be making whatever economical transactions possible, we do not support the idea of either planning resource procurement around these possible transactions, nor do we believe that pricing to QFs should include all of these possible transactions. The reasoning is this. If PacifiCorp were to plan to serve load using non-firm transmission, there is a possibility that this transmission would not be available and that the load, therefore, would not be served. The reasoning in regard to the QFs is similar. If PacifiCorp were to set a QF price based upon the assumption that it could obtain non-firm transmission at any time in order to sell off unneeded energy, in any hours during which non-firm transmission either was not available or still did not lead to more market

availability, then the avoided costs being paid could be higher than what would be necessary to maintain ratepayer neutrality. The Division believes that some non-firm transmission is used on a regular basis, however, so the Division is still trying to ascertain a method by which some reasonable amount of non-firm transmission is included in order to simulate actual system operation. We do not believe that all transmission constraints should be removed.

Q. What about including the transmission upgrades planned by MidAmerican Energy Holdings Company as outlined in its recent acquisition application?

A. Well, there are a couple of different problems with including these transmission upgrades at the present. First, the Commission has not yet approved the MidAmerican acquisition. Second, the MidAmerican filing makes it clear that the transmission upgrades listed in the filing are still subject to further review to assess the economics of each upgrade. The Division believes that these transmission upgrades should be included as inputs to GRID only at the point in time when there is more certainty that the projects will actually move forward. It is important to point out at this juncture, however, that this argument seems to be slightly off topic. Transmission rights are a modeling input, not necessarily a methodology issue. The Division does not believe that input assumptions should cause a methodology to be discarded.

Individual or Group Issues

Q. In what order will you respond to the interveners?

A. The Division will first address the Committee of Consumer Services witness Hayet, followed by the UAE intervention group witnesses Baebler, Gutting, and Townsend, followed by US Magnesium witness Swenson, Wasatch Wind witnesses Collins and Livingston, and finally by Pioneer Wind witness Swenson.

Committee of Consumer Services

Q. In Mr. Hayet's testimony, he suggests revisions to the DRR method. Has the Division reviewed these suggestions?

A. We have. We find them reasonable and suggest that they be adopted.

UAE

Q. Two witnesses for UAE, Messrs Baebler and Gutting, stated that there needs to be a process in place to solve contract disputes for QFs. Does the Division disagree with this idea?

A. Only in that the Division believes that there **is** such a process in place right now. That process is to bring the dispute before the Commission. As parties to this docket are no doubt aware, the Commission has held a couple of hearings on an expedited basis over the last month or so to deal with disputes in Docket 05-035-08, which was consolidated with this docket in April. The Division believes that this process has been very efficient about dealing with disputes, even if it is less than convenient for regulators or the Commission. The Division, therefore, does not see the necessity of changing the process already available.

Q. Another issue brought up by Mr. Gutting of UAE is that utility resources and QF resources should be treated in an identical manner. Does the Division agree with this?

A. Not exactly. The Division believes that QFs should be treated in an equitable manner, after taking into consideration the differences in circumstances between the utility and the QFs. It is important to remember that there are fundamental differences between QFs and utility resources that support non-identical treatment. The Division will mention only a couple here, although more may indeed exist. The first of which is that PacifiCorp acquires resources in order to fulfill a legal obligation to serve load. QFs, in theory,

build resources in order to further their own production abilities. The second difference is that PacifiCorp is a regulated utility that is only allowed to recover operating costs plus some return on investment not to exceed a Commission determined amount. A QF is not required to limit its return based upon regulatory mandates. It is at liberty to earn whatever return possible without regulators overseeing the effort. Therefore, the Division believes that only after these differences are accounted for can truly equitable treatment be provided.

Q. UAE witness Mr. Townsend indicated that he believed that transmission upgrade costs associated with the avoidable resource should be included in the proposed capacity payment. Does the Division have a position on this issue?

A. We do. At this time, the Division is unconvinced that such costs should be included in the capacity payment for one main reason. Due to SB 26, every major resource that PacifiCorp procures must competitively bid. This means that the IRP resource can be nothing but a proxy until a real resource is selected from among those bid into the RFP. PacifiCorp has indicated that it will not be including a self-build option into the current RFP, which means that there is insufficient certainty that the aforementioned transmission costs will be applicable. While, due to the online timeframe, a CCCT is a reasonable guess at what resource will be selected by a 2009 competitive bid process, PacifiCorp's decision not to bid in a Current Creek II as a possibility limits the reasonableness associated with assuming avoided transmission costs from the Current Creek site.

Q. In his testimony, Mr. Townsend suggests a method by which a capacity payment would be made in all years of a twenty-year contract rather than only during the deficiency period. Does the Division agree with this or a similar method?

A. The Division discussed the issue and decided that there were two sides that needed to be examined. The first was the issue of inter-generational subsidization among the customer base, because one group of customers may be paying capacity payments for a plant that may not have been needed at that time. The other side is that without a steady stream of capacity payments, some possible QF facilities may be hard pressed to obtain project financing. The Division looked at the resource addition forecasts for the upcoming 10-year period and found that the time-period between resource additions was in the neighborhood of 2-3 years. Therefore, the intergenerational subsidization would probably be of limited duration, even assuming that the new QF came on the day after a new IRP resource did. On the other hand, without any sort of capacity payment for 2-3 years, many QF projects would find it difficult to survive. Therefore, we believe that the possible benefits to QFs outweigh the intergenerational subsidization, the request is reasonable and we support its implementation. We would recommend, however, that sufficient security be required in contracts using this type of arrangement to protect ratepayers in case of default.

Q. In his testimony, Mr. Townsend refers to several assumptions that he believes make the results from GRID unreasonable. Does the Division agree with Mr. Townsend?

A. Not necessarily. While the Division does not claim that all assumptions within the GRID model are what we would have them be as is evidenced by our testimony regarding the use of the model in prior rate cases, we do not believe that it is necessary to discard use of a model just because of a difference in opinion regarding the assumptions, particularly those that can be changed. The Division also does not necessarily agree that the assumptions discussed by Mr. Townsend are problematic. As discussed earlier, the Division has serious reservations around using large amounts of non-firm transmission and is unconvinced as to the depth of market alleged by Mr. Townsend. We will, however, agree that a 100% capacity factor assumption is not only highly

unlikely it is unachievable. The Division does believe that any QF that is running for industrial purposes will have a particular capacity factor that it will be working to achieve, given that in many cases when the facility is down, so is the industrial process that it fuels. Therefore, it is reasonable to assume that a QF will have a higher capacity factor than that cited by Mr. Townsend as a reasonable capacity factor for an incoming CCCT.

US MAG

Q. In his testimony for US Magnesium, Mr. Swenson stated that he believes that concerns expressed by regulators regarding avoided cost rates that are too high or lead to too much generation capacity are not warranted, based upon the Commission's ability to turn down contracts not in the public interest. Does the Division agree with this statement?

A. No. Even though it is true that the Commission does have the ability to turn down contracts that it believes are not in the public interest, it is also true that such action would be very difficult to recommend if the contract terms were reached by following an approved methodology. It is very important that regulators work toward finding a methodology that produces avoided costs that are as accurate as possible. Avoided cost rates that are either too high or too low could both lead to problems. Avoided costs are a particularly tricky subject because the contracts can have 20-year terms, meaning that any mistakes made can be long-term ones.

Wasatch Wind

Q. In direct testimony, Dr. Abdulle addressed issues dealing with wind or renewable energy on behalf of the DPU. Are there still issues with wind that you will be addressing?

A. Yes. There are a couple of issues raised by witnesses for Wasatch Wind that I have been asked to address on behalf of the DPU. I will also be addressing an issue raised by Pioneer Wind below.

Q. In Mr. Livingston's testimony, he outlines why bidding into the RFP would be a hardship on small wind developers. What is the Division's response to this concern?

A. The Division agrees that bidding into an RFP could constrain small developers and be a hardship. The Division does not recommend that small wind developers be forced to participate in this activity unless they choose. Rather, we recommended that large-scale developers of any type of QF resource, be it renewable or thermal, be required to bid into an RFP. For a large-scale developer, the resources needed to bid into an RFP should be available, given the level of resources that the developer is contemplating expending on the project. Therefore, the Division, as stated in our direct testimony, believes that a requirement to participate in an RFP process should be reserved for large projects, those 100 MW or larger. It is important to note, however, that the Division has not stated that QFs smaller than 100 MW should be precluded from participating in a competitive bid if they so desire; on the contrary, we would encourage it.

Q. In Dr. Collins testimony, he states that PacifiCorp's preferred methodology using the GRID model is not acceptable because it is not entirely consistent with the IRP. Does the Division agree with this assessment?

A. If we are using consistent to mean identical, then no, GRID is not identical to the IRP model. Using GRID was meant to be a compromise because of the opposition to using the IRP model from numerous parties during the original round of testimony in this docket. Frankly, the Division still believes that using the IRP model is preferable.

Q. In his testimony, Dr. Collins states that regulators are biased against QF development. Does the Division perceive this bias?

A. No. The Division's goal is to find a method that approximates PacifiCorp's avoided costs as closely as possible. Throughout this process, we have been very adamant about finding a methodology, not a price. We believe that avoided costs are what they are and it is the task allotted to us through this docket to find a methodology that brings about pricing that as closely simulates these real avoided costs as possible. We have advocated for a Differential Revenue Requirement method because we believe that this method is the best one available for finding avoided cost rates that closely simulate actual. As I stated above, the Division has good reason to be cautious, as mistakes in methodology can lead to pricing mistakes that can cost ratepayers for 20 years. Under a good methodology, the Division is like ratepayers, indifferent to what party supplies power.

Q. Are there any other issues in Dr. Collins testimony that you would like to address?

A. Only one. I have been asked to present the Division's ideas of what classical economics is about. Dr. Collins stated that classical economics is about simplicity and usefulness. After some discussion, the Division is unable to concur. Although the classical economic thinkers – Adam Smith (1723-1790), David Ricardo (1772-1823), and John Stewart Mill (1806-1873) – undoubtedly believed, as do most scientists, that their theories were useful, the basis of classical economics is not simplicity and usefulness as claimed by Dr. Collins. Instead, the basis of classical economics is rooted in the view that competitive “markets automatically provide harmonious solutions to the conflicts flowing from relative scarcity.”¹ In other words, the classical economists viewed unregulated markets, not simplicity or usefulness, combined with individual political and economic freedom as the best means of achieving efficient allocation of an economy's productive resources.²

¹ See, Harry Landreth and David C. Colander, *History of Economic Thought*, 3rd Ed., [Houghton Mifflin Company: Boston, 1994], pp. 60-66.

² This is one of the major themes throughout Adam Smith's monumental work, *An Inquiry Into the Nature and Causes of the Wealth of Nations*, 1776.

Pioneer Wind

Q. In his testimony, Mr. Swenson proposes a price for wind based on a previously signed contract. Has the Division considered his proposal and reasons behind it?

A. We have. While the Division, as previously stated, is not sure that this type of proxy is reasonable, we are still assessing it. We are working on a new GRID run looking at wind and will assess the differences between the price reached in this run and those contained in the confidential contract referred to by Mr. Swenson. The Division may address this issue further in surrebuttal testimony.

Q. Does this conclude your rebuttal testimony?

A. Yes it does.