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BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

In the Matter of the Application of PACIFICORP for Approval of an IRP-Based Avoided Cost Methodology For QF Projects Larger than One Megawatt	Docket No. 03-035-14

PREFILED REBUTTAL TESTIMONY OF ROGER J. SWENSON

US Magnesium LLC and Desert Power LP hereby submit the Prefiled Rebuttal Testimony of Roger J. Swenson in this Docket.

DATED this 6th day of May, 2004.

/s/_______________________________

/s/_______________________________

PREFILED REBUTTAL TESTIMONY

Of

ROGER J. SWENSON

On behalf of US Magnesium LLC and Desert Power LP

In the Matter of the Application of PACIFICORP for Approval of an IRP-Based Avoided Cost Methodology For QF Projects Larger than One Megawatt

Docket No. 03-035-14

May 6, 2004

Background

Q. Please state your name and business address.

A. Roger J. Swenson , 1592 East 3350 South, Salt Lake City, Utah 84106

Q. Have you previously submitted testimony in this proceeding?

A. Yes. I submitted direct testimony on behalf of US Magnesium LLC ("US Mag") and Desert Power LP ("Desert Power").

Q. What is the purpose of your rebuttal testimony?

A. The purpose of my rebuttal testimony is to respond to the direct testimony filed in this docket by PacifiCorp, the Division of Public Utilities ("DPU") and the Committee of Consumer Services ("CCS").

Q. Do you have any general comments concerning the direct testimony filed in this case by the DPU and CCS?

A. Yes, there appears to be a significant conflict between state energy policy as dictated by state statutes and the Governor's office – which strongly supports independent power production - and the policy being pursued and implemented in this case by the DPU and CCS

Q. Can you be more specific about State Policy?

A. Yes. In my direct testimony, I quoted state statues and a statement from the Utah Energy Office that provide strong encouragement for independent power production in this State. In addition, the state's Energy Policy, a copy of which is attached hereto as Exhibit 1 [Exhibit USM/DP 1R.1], provides as follows:

> "**Efficiency and Conservation" –** Public policies will support sustained investments in demand-side management and increased use of energy

efficient technologies and services in Utah's economy.

" **Investment" –** Private investment by utilities and non-utility providers is required to meet our energy needs. Investment occurs only when there is an opportunity for adequate financial returns.

Q. What indicates that there is a conflict between declared state policy and the actions of the state agencies who should be implementing them?

A. The direct testimony of the state agencies propose a very troubling double standard between what a utility gets paid for its investment in generating resources and what a QF is paid for developing its QF resources. They propose that independent energy producers should be paid on a very different basis than utilities. If this type of double standard is adopted, independent energy production in Utah will remain seriously disadvantaged and development will remain stymied. I believe this double standard is inconsistent both with the clearly declared state policy to encourage the development of independent power resources, as well as with Utah statutes that prohibit preferences or subjecting anyone to prejudice or disadvantage, Utah Code § 54-3-8.

Q. How does the testimony of the state agencies promote this double standard?

A. They propose less than full recovery for fixed costs incurred by a QF developer. These proposals certainly do not encourage development of independent power. While proposing QF recovery of only 50% of the fixed capacity costs for several years, the state agencies have made no similar proposals for similar reductions to the fixed costs that will be incurred for Current Creek, even though it will only be needed for a few months in the first several years.

Q. Mr. Tallman's direct testimony, page 5, urges caution in establishing QF prices. Can you compare his proposed QF prices to the costs that the utility expects to receive for plants that it has recently built or is building?

A. Yes. The recent plants built or being built by PacifiCorp provide a very telling comparison. I have calculated the costs of the West Valley plant and the Currant Creek facility to compare with PacifiCorp's proposed QF rates. I have used the projected Currant Creek capacity factor by year for the comparison:

Year	Capacity Factor	West Valley	Currant Creek	Proposed QF Rates
2004	18%	$117.30	$98.67	$ 41.31
2005	55%	$ 71.82	$ 52.85	$ 45.28
2006	55%	$ 70.10	$ 51.86	$ 43.14
2007	54%	$ 69.75	$ 51.93	$ 46.69
Averages:	45.5%	$ 82.24	$ 63.83	$ 44.11

Q. What does this tell you?

A. PacifiCorp is proposing a tremendous preference for itself over QF developers; the utility proposes to pay itself for its own plants at rates more than 65% higher than it proposes for QF developers. It does this while at the same time stating in testimony that we should be cautious about what we pay QF projects. Apparently, PacifiCorp is comfortable making this proposal based on an expectation that the state agencies will follow its lead in assuring that disadvantaging independent power producers continue to be excluded from this State by rendering them uneconomic.

Q. Mr. Tallman claims on page 3 of his testimony that, by statute, the utility cannot pay higher QF rates than the costs it actually avoids. Are the facts

consistent with this claim?

A. No. In fact, his testimony seems to provide evidence to the contrary. Mr Tallman's testimony suggests that the utility is paying an average of roughly $83/MWH to QFs on the system. Mr. Tallman references 200 MW of QF power and 900,000 MWH, suggesting a 51% load factor for existing QF contracts. Under the company's proposed QF rates for 2004 in this docket ($16.07/kw-yr capacity payment and $31.20 energy payment), the QF rate based on a 51% capacity factor would be $34.77/MWH. Rates to existing QFs are thus effectively 238% higher than the rates being offered to Utah QFs today.

Q. Mr. Weaver's proposed methodology for deriving avoided costs identifies an "optimum" resource, and proposes using a "differential" method until 2007. Do you have any comments on his testimony?

A. The optimum resource discussed by Mr. Weaver is a combined cycle power plant. It is understandable that this is his choice, given that the company has just obtained a Certificate of Convenience and Necessity to build such a resource. However, his processes for deriving rates from the differential revenue requirement method and the follow-up proxy method both use theoretical plants that run at much higher capacity factors (the percentage of time a plant is operating) than what the recently completed studies for Currant Creek suggest that such a plant should or will be operated. Currant Creek capacity factors are only 18% for the first year and 55% for the following three years, for an average capacity factor of 45.5%. [Currant Creek NBA1 Model Dispatch]

Q. Why does this matter?

A. Two important factors affect PacifiCorp's proposed capacity payments in the years leading up to the switch to a proxy plant in 2007. One is PacifiCorp's proposal to reduce capacity payments to 25%, based on its claim that QF capacity is needed for only three months per year. The other is the impact of assumed capacity factor on energy prices.

Q. How do you react to the suggestion to limit fixed cost recovery to 25% during the early years?

A. I find this suggestion outrageous, incredible, unfair and preferential. Currant Creek is projected to be needed for only roughly three months in the first year, yet PacifiCorp has not proposed to reduce its fixed cost recovery to 25%. Moreover, I find it incredible that, so soon after predicting catastrophic blackouts absent approval of Currant Creek, PacifiCorp can now be so casual in assuming access to market resources. It is ridiculous to expect that anyone (including PacifiCorp) could finance any type of generation facility if it can expect only 25% fixed cost coverage for the first 2 to 3 years. This approach, if accepted, will stop nearly all new development in its tracks. I find this suggestion particularly amazing after listening to Mr. Furman of PacifiCorp speak to the critical importance of cost recovery for PacifiCorp in the Currant Creek hearings, and his prediction of likely inaction by PacifiCorp if it faced any likelihood of cost disallowance. Yet here, PacifiCorp effectively proposes a 75% disallowance of capital cost recovery in the first few years of a QF facility.

I find it blatantly unfair that PacifiCorp intends to seek full cost recovery for a plant that will be needed for no more months than a QF is needed, while proposing only 25% cost recovery for a QF. Compare this to the repeated requests by US Mag and Desert Power many months before Currant Creek was even announced, and PacifiCorp's repeated delay of resolution. To now be told that our resources are somehow worth less to ratepayers than the utility's plant smacks of the heights of preferences and self-dealing.

Q. Please explain the issue with Energy Payments.

A. The energy price derived from the differential revenue model proposed by PacifiCorp for use through 2007 differs dramatically depending upon the assumed capacity factor of the assumed zero-cost alternative plant. For example, data was supplied by PacifiCorp for a zero cost resource run with both a 50% capacity factor and a 15% capacity factor. The average results for the years 2004-2008 are as follows:

Year	50% Capacity Factor	15% Capacity Factor	PacifiCorp's Proposed QF Energy Rates
2004	$ 33.21	$ 41.84	$ 31.20
2005	$ 46.03	$ 65.46	$ 41.85
2006	$ 45.01	$ 70.02	$ 39.63
2007	$ 62.41	$ 95.06	$ 55.27
2008	$ 73.48	$106.06	$ 66.42

[PacifiCorp Responses to CCS Data Requests 5.6 and 5.7]

Q. What do these results tell us?

A. The per-unit value of a lower capacity factor facility is much greater, suggesting that the system has a clear need for resources that provide peaking capability.

These prices provide a clear economic signal for the type of facilities that PacifiCorp needs, based on the differential method model. This approach, however, flies in the face of the direction of PacifiCorp's proposed QF pricing structure, which requires an 85% capacity factor plant to receive full QF payments. Mr. Griswold proposes a reduction in QF payments for a facility that does not have an 85% load factor. Therefore, any independent energy project will be driven to design projects that have high load factor operations as opposed to the peaking operations that will be more valuable to the utility.

Q. What else do you find troubling about the differential revenue model?

A. The model used to derive the energy costs uses a proxy facility with zero cost to derive the difference in costs with and without the zero cost resource. PacifiCorp then states that the resource must be dispatchable. If the model represents a perfect guess at actual future costs and loads, then the only way the QF receives an appropriate payment is if it runs as many hours as the model has indicated it should. Of course, when the model has a zero cost resource, it will dispatch that resource 100% of the time. The energy payment will be based on that 100% pricing. If the utility decides to dispatch the plant 50% of the time because real actual loads or real actual costs indicate that is what is needed, then the QF will be paid at a much lower energy price than it deserves. This is one of the shortcomings of the differential model as proposed in this proceeding.

Q. Does the NDP method suffer from this shortcoming?

A. No. The NDP method only purchases from a QF at prices that represent costs the utility would actually have, not costs that are guessed at by a model many years into the future.

Q. After 2007, PacifiCorp uses a proxy model as you have proposed. How is PacifiCorp's proposal different than your own?

A. PacifiCorp's proxy plant is a combined cycle natural gas unit with a heat rate that matches up with Currant Creek. I propose the West Valley unit as the proxy plant, since by contract it is the next deferrable resource in the system. Since the West Valley plant contract has a termination option, it is clearly deferrable. In addition, PacifiCorp takes cost and annualizing factors from the IRP for operating costs and a levelized capital cost calculation.

Q. What concerns do you have about PacifiCorp's approach?

A. I have major concerns with the PacifiCorp approach. First, it relies upon projections (guesses) as to capital costs. Second, it uses multiple mathematical conversions (manipulations) of fixed costs to variable costs and variable costs to fixed costs, for no apparent reason. Third, the incentive for a baseload facility is inconsistent with the system's needs, especially in the early years. I also do not understand exactly what costs the QF would receive when the QF is not "dispatched" by the utility and continues to operate.

Q. Please explain in more detail your concern over capital costs.

A. It is very difficult to project capital costs accurately. Even with all of the recent and intense analysis relating to Currant Creek, the cost projections may be significantly understated. For example, additional costs may be required to meet air quality standards, including expensive changes in plant design. It is much more accurate to use actual cost data, if available, as it is with the West Valley plant. It may be necessary to use projections when actual data on a deferrable plant is not available, but when we can use actual data we are much more likely to satisfy the ratepayer indifference standard.

Q. What is your concern about conversions from fixed to variable costs and vice versa?

A. Pricing signals are being distorted. Price signals should provide a clear message as to the value of energy in any given hour. Fixed capacity payments should be based on fixed costs that may be avoided. Variable payments and energy costs should be based on the variable costs that the QF may allow the utility to avoid. PacifiCorp's methodology converts some fixed costs to a variable payment and transfers some variable costs to the capacity payment. The result is a confused mishmash that does not provide a reasonable basis for adjustments.

The proposed Schedule 38 methodology which is derived from the historic Schedule 37 methodology appears to draw its fundamental rationale from tradition and approval in other jurisdictions rather than from clear or intuitive logic that can be explained rationally. I do not believe that is a sufficient basis to retain it.

Q. Do you agree that the methodology adopted by the Commission should be simple and easy to understand?

A. Absolutely. Unfortunately, PacifiCorp's approach does not meet those criteria, particularly in terms of understanding how the numbers are derived and knowing what price a QF can expect to receive. The NDP method, on the other hand, is clear and based on actual derivable costs. Under the NDP approach, it can easily be explained where the costs are derived from in each hour, and uneconomic purchases are avoided, unlike the PacifiCorp proposal based on price and cost projections that will certainly not be correct.

Q. What concerns do you have about Mr. Griswold's testimony?

A. My major concern with his testimony is that it perpetuates what I have been complaining about for many years. So long as pricing is left to a PacifiCorp "black box" or discretionary adjustments are left for PacifiCorp to make, there will be no way for a potential QF developer to determine what its price will be or how the discretionary adjustments will be applied. There must be a clear basis for any potential adjustment, and the basis must be known and explained up front. Otherwise, PacifiCorp will continue to discourage and thwart QF development.

Q. Do you agree with the adjustments proposed by Mr. Griswold?

A. Only partially. Some adjustments may be required, given that QF projects may take a number of different forms. However, any adjustments should be known and the basis quantified up front so that a potential QF developer can decide how best to design its system to provide the greatest value to the system. The NDP method automatically takes care of most of the adjustments by dispatching only when it is economic. This tends to create the greatest value, by matching the characteristics of a plant that the utility needs in its mix of resources. If the plant is out of the money it will not be dispatched and the QF will receive only the market displacement cost or a non-firm market price.

Q. Do you have any other concerns about Mr. Griswold's proposed

adjustments?

A. Yes. Care should be taken to ensure that any required adjustments will be made in a non-discriminatory and non-preferential manner, that they will not create inappropriate disincentives to the development of energy efficient resources, and that ratepayer neutrality will be assured as to who develops the resource. An example is the proposed adjustment for unplanned outages. After the Hunter plant failure, ratepayers bore much of the cost for replacement power, as well as ongoing capacity costs included in rates while the plant was down. Mr. Griswold proposes a very different standard for QFs. PacifiCorp wants all risks of its investment to be borne by the ratepayers - not its shareholders – while imposing on QFs the very risks that it will not bear itself.

Q. What about Mr. Griswold's proposed capacity factor adjustment?

A. As I have previously mentioned, this proposed adjustment will drive a QF to design a baseload configuration, if possible, even though baseload resources may not be as valuable to the system. I am not aware of any logic behind his proposal for a straight-line reduction in capacity payments. Under Mr. Griswold's proposal, a QF that provided a 42.5% load factor would only receive 50% of the capacity payment, even if the 42.5% operation were scheduled during the highest value hours. Such an operation would provide a much higher value to the utility and its ratepayers, but would be discouraged and penalized by Mr. Griswold's proposal. If such an adjustment is needed, perhaps a better approach would be to proportionally reduce the capacity payment down to a simple cycle capacity payment value, although this may also require a corollary change in the energy value provided by the QF.

Q. What is your biggest concern with Mr. Griswold's proposed adjustments?

A. Discretionary adjustments should not be permitted. Any required adjustments should be clear and understandable. I would also expect that clearly identifying the adjustments before hand and when the adjustment will be utilized in the process would make PacifiCorp's administration of these resources easier.

Q. PacifiCorp also proposes accounting adjustments. What are your concerns with this proposal?

A. The accounting issues need to be fleshed out in much more detail. There should be no adjustment absent a clear showing of actual cost to the utility that cannot be avoided and that would be avoided if the utility itself undertook the expenditure. If there are contractual mechanisms that can minimize this risk or allocation of costs, they should be provided up front so that QFs can design their project financing structures to minimize costs. It would not be appropriate to start charging these costs without a great deal of additional analysis and efforts to avoid these extra costs. Otherwise, they will impose an unnecessary barrier to cogeneration and renewable energy. Costs should not be imputed to QFs absent clear guidelines. It appears that very few jurisdictions have yet developed clear guidelines. On this issue, I agree with Ms. Francone's testimony.

Q. Mr. Hayet argues that large QFs may cause low cost coal resources to be turned down. Do you agree?

A. While it is certainly possible to suggest circumstances under which that result could occur, intuitively it makes little sense. If coal resources are operating at a variable cost of around $10/MWH, there will usually be a market for that power, even in the off peak hours, at a value that would keep the coal resources running. My proposed NDP QF pricing approach addresses Mr. Hayet's concerns, the price received for that power would be the price passed along to the QF, so the ratepayers would remain indifferent. The only circumstance where this could be an issue is if the increased generation from the QF causes transmission constraints. Then instead of receiving market prices the QF should be paid only the variable operating cost of the coal plant that reduced output because of the transmission constraint.

Q. Mr. Hayet also claims that using the proxy that PacifiCorp has suggested will overstate avoided costs, do you agree?

A. No. I do not agree. That would only occur if the utility does not dispatch at the appropriate price, as I suggest with the NDP approach. One only need consider what should happen with the differential revenue cost model that Mr. Hayet and Dr. Powell suggest we use to develop avoided costs. If PacifiCorp's available resources include the existing 320 MW of simple cycle resources and 500 MW of combined cycle resources now under construction, there is a significant amount of high-cost resources in the mix that can be avoided. If the plants have been turned off by the logic of the model, it is because market prices are projected to be lower than the operating costs of the plant. Under my approach, a QF would be paid based on those market prices when not dispatched, based on its implied variable cost.

Q. Do you have any comments on the production cost model that Mr. Hayet

proposes to use for the entire period to calculate avoided costs?

A. My main comment is that models should behave in a manner that is consistent with our knowledge and intuition. A perfect determination of avoided costs is possible only if one can accurately predict up front all of the variable inputs to the model, including load growth, specific loads per hour, and gas and electric market prices over the 20 year period. Moreover, a production cost model should produce the same numbers as a proxy model, if the QF is dispatched exactly as the proxy would have been dispatched and if the QF receives market prices when it runs during non-dispatch hours, as my approach suggests. When the IRP model was used in an effort to demonstrate the validity of a production cost approach, it failed to provide intuitive results under sensitivity analysis runs.

Q. Do you agree that a coal-fired unit should be included in the proxy analysis as suggested by Mr. Hayet?

A. No. I do not believe it is necessary or appropriate, and it adds tremendous uncertainty into the projections. Without a clear understanding of the environmental issues and the costs of meeting environmental standards, including carbon tax issues, it is impossible to estimate the potential costs. It would introduce new arguments over design issues, location issues, the need for costly transmission upgrades, etc. It is also very difficult to predict when a coal plant would realistically be added. To base costs on the potential of a coal plant in the future is not how PacifiCorp gets its costs recovered and should not be the basis for reducing QF rates. It is discriminatory and unfair to impose this requirement on QFs, particularly when it was not imposed on PacifiCorp in the recent Currant

Creek proceedings.

Q. Do you take issue with Mr Hayet's proposed capacity payments during the so-called "sufficiency period"?

A. I do not take issue with his calculation of the months that the utility will likely be short, but I do take issue with the proposal to reduce capacity payments accordingly, as explained above in my discussion of Mr. Weaver's testimony. I will not restate my specific objections here, but I will offer an alternative. The full fixed costs could be allocated to those months when the utility is short. That is, divide the full annual cost by the 6 deficient months and pay the QF the capacity costs in just those months. The costs occurring in those months will provide a strong price signal, when run through the cost of service model, to customers causing the capacity shortfalls.

Q. Do you have any comments concerning the testimony of Dr. Powell?

A. As discussed above, I oppose his proposed reliance on complicated "black-box" models that involve tremendous amounts of forecast data. These models will not be accurate because we cannot forecast all input prices correctly. I do not believe it is possible to know enough about the future to set accurate pricing. If a QF provides a load profile that matches the proxy plant, the production cost model should give us the energy (variable) cost of the proxy unit as long as the QF is large enough to turn off (displace) a single unit of the NDP plant. If the QF runs more than the proxy then the model should offset resources that dispatched with market prices (that were guessed at in the model). The model should converge with what I have suggested as the simple approach -- using the actual variable cost of the proxy and market prices when dispatched off by the utility.

Also, Dr. Powell seems to rely exclusively on a description of QF rate determination from one booklet prepared by the Tellus Institute. There is no clear test of the results from which one could draw conclusions from that the study, and certainly none are presented here. Tellus proceeds from a theoretical basis, but offers no data to support the theory. Tellus makes statements about the alleged accuracy of the proxy method, the revenue decrement method, and the ideal method, but offers no support for its assertions. It remains unclear whether the Tellus proxy method, as described by Dr. Powell, also includes dispatchablility and market pricing for operation out of the dispatch period as described in the NDP method. I would argue that it is impossible to reasonably draw the conclusions that Dr. Powell seems to derive from this booklet. As stated earlier, models are guesses which we know from experience will not accurately reflect actual cost and performance.

Also, I expect to have further comments on Dr. Powell's position when his rebuttal testimony provides more clarity.

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing was served by U.S. mail, postage prepaid, or by email, this 6th day of May, 2004, to the following

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